

*View of the great MINE of COPPER at FALUN in DALECARLIA,
from a drawing by MARTIN of STOCKHOLM.*

Published Feb 1st 1822, by T. Cadell, Strand, London.

TRAVELS
IN
VARIOUS COUNTRIES
OF
SCANDINAVIA;

INCLUDING

DENMARK, SWEDEN, NORWAY, LAPLAND,
AND FINLAND.

BY

E. D. CLARKE, LL.D.

IN TWO VOLUMES.

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TRAVELS

VARIOUS COUNTRIES

SCANDINAVIA

DENMARK, SWEDEN, NORWAY, ICELAND

AND FINLAND

E. D. CLARKE, F.R.S.

Author of "Travels in the North of Norway"

and "Travels in the North of Sweden"

and "Travels in the North of Finland"

and "Travels in the North of Denmark"

and "Travels in the North of Iceland"

and "Travels in the North of the Arctic Circle"

and "Travels in the North of the Polar Regions"

and "Travels in the North of the World"

and "Travels in the North of the Universe"

and "Travels in the North of the Cosmos"

and "Travels in the North of the Galaxy"

and "Travels in the North of the Universe"

ADVERTISEMENT

RELATING TO

THE CONCLUDING VOLUME

OF

DR. CLARKE'S TRAVELS.

It has not been permitted by Providence, that Dr. CLARKE should close with his own hand the series of Volumes containing the Narrative of his Travels. This estimable and gifted man expired, after an indisposition of some continuance, but from which no fatal termination was at first apprehended, on the ninth of March 1822.

The sorrow occasioned by this melancholy event, to those numerous friends to whom the kindness of his nature and the many excellent qualities of his heart had long endeared him, has been equalled by the regret universally expressed for the loss of one who had established so many and strong claims on public esteem and admiration. But the confined space, which could be here allowed, would not admit of a complete delineation of the several features of his distinguished character: that task must be left to other hands; and, it is

hoped, will be shortly accomplished, in a manner worthy of the subject, and satisfactory to the Public.*

The appearance of this concluding Volume was unavoidably delayed during the life-time of Dr. CLARKE, by the necessity, under which he was placed, of attending to the duties of his public situation in the University of Cambridge; and, latterly, by the increasing severity of his bodily indisposition. After his decease, those of his friends, to whom his Journals and Papers were entrusted, examined them, for the purpose of ascertaining whether the materials they contained were of such a nature as to allow them to proceed in the continuation of the Work. On finding them sufficiently copious, they thought themselves justified in completing the Volume. Twelve Chapters had been prepared for the press by the Author himself, and printed under his direction: the rest have been composed from the observations contained in his Manuscript Journals, which have been strictly adhered to, with a few exceptions: and in the parts where they were deficient, some assistance has been derived from the remarks found also among his papers, which had been communicated to him by friends who had visited the North of Europe.

It appears, from the documents found among his Manuscript Papers, that he intended, in the Preface to this concluding Volume, to refer to the numerous testimonies of

* See the annexed Proposals for publishing the Life and Remains of the Author.

of Travellers who had confirmed the account of *Russian* manners and character which he gave in his First Volume. It appears, too, that he had received a variety of private Letters from persons who had visited *Russia*, amply confirming the general truth of his statements. As the Author did not live to produce these testimonies himself, in the manner he had proposed, it has been thought most consistent with propriety to abstain here from all discussion of the subject. Already, the Public have full means before them of judging of the correctness of his representations: and no person who has the most remote knowledge of his character, will ever suppose that he was, on any occasion, or in the smallest circumstance, guilty of wilful misrepresentation, or that he wrote from any other feeling than a sincere conviction of the truth of what he affirmed.

In consequence of the general approbation bestowed on the First Volume, Dr. CLARKE was encouraged to give his utmost attention to the succeeding Parts; in the hope of making them worthy of the favour with which his Work had been received. He was aware, that, in conformity with his original plan, it would be extended to some length: and therefore, in preparing the different Volumes for the Public, he remitted nothing of that care and research which he had employed in the composition of the First. By the new and interesting information which he had collected, he was enabled to throw great light on the Natural History, the state of Society, the habits and condition of the People of Countries which had not been recently visited: and in his
remarks

remarks relating to other parts more frequently examined, he spared no labour to illustrate the narratives of those who had preceded him; to supply their deficiencies; and to suggest subjects of useful inquiry to the Travellers who may follow his steps. In the present Volume, there is the same endeavour to interest the Reader in the subject before him—the same power of description—the same life in the delineations of character and manners, which particularly distinguish the former Parts. In delivering it to the Public, the friends of Dr. CLARKE beg leave to bespeak an indulgent consideration of those Chapters which were not prepared for publication by the Author's own hand. Respecting the rest, they feel no apprehension: they anticipate, with confidence, that it will be found to make an important addition to a Work which reflects the highest credit on its author; whether it be considered with reference to the quantity and value of the materials collected,—the industry and care displayed in the arrangement of them,—or the spirit and animation which pervade the whole.

Proposals

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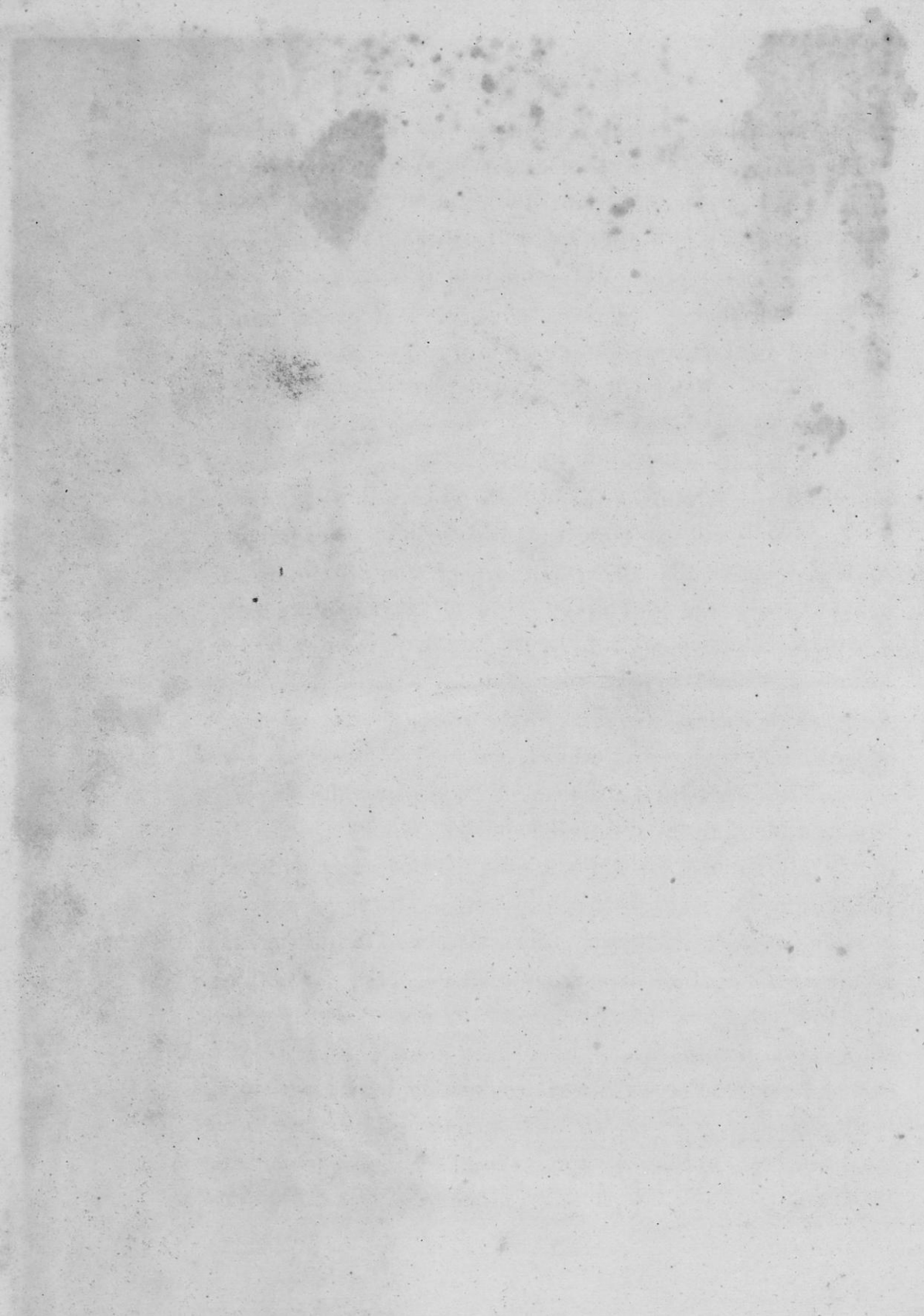
WE had now traversed nearly the whole of NORWAY, from the North to the South; but had seen nothing of its western province of *Bergen*, nor of the city of that name. Yet this being the most populous town of the whole country, we were desirous of obtaining from the inhabitants some information respecting its present state; and for this purpose we introduced the subject in our first conversation with Mr. *Anker*; telling him that the people of *Trönjøm* seemed almost as ignorant as we were, of every thing relating to *Bergen*. “It is precisely the same with us in *Christiania*,” said he: “*Bergen* is less known to the inhabitants of this place than *London* or *Paris*: in fact, we hardly consider it as forming a part of our country; or as inhabited by *Norwegians*. The people of *Bergen* are, for the most part, foreigners, principally from *Holland*; persons who have settled there for trade; buying and selling the fish taken by the natives of the northern parts of *Norway*.” We soon forgot *Bergen*, and turned our inquiries towards *Christiania*, whose representative we thought we beheld in this high-spirited and intelligent man. He had travelled much, and combined, in his manners, all the best characteristics of our own countrymen, with a good deal of *French* foppery, and that native heartiness of a *Norwegian*, which knows no bounds to its hospitality, but, as in *Sweden*, will carry its kind attention to strangers even to excess. It seemed, in this short interview,

Situation of *Bergen* with respect to the rest of *Norway*.



CHRISTIANIA,

TAKEN WITH A CAMERA OBSCURA, BY AN OFFICER OF THE DANISH ARMY.



as if his whole property were to be at our disposal. “ My carriages and horses, Gentlemen, are at your service so long as you choose to remain with us. Our good friends here, Mr. *Kent* and Mr. *Jarret*, will tell you, that our parties in *Christiania* are pretty well attended: there is nothing stiff or formal in them: we meet, chat, play at cards, smoke, sing, and drink *Burgundy-bishop*: every one comes and goes as he likes. You will be expected this evening at the Governor’s: his Lady is a very pleasing woman. If you go to his house, I shall have the honour of introducing you to several families, and of taking you afterwards with me to a rout, where you may amuse yourselves after your fatigues. To-morrow, Mr. *John Collet* will expect you to dine at his house: there you will meet many of the inhabitants of this place; and, among others, Dr. *Müller*, a man of letters, who married an English Lady.” Being Chamberlain to the King of DENMARK, *Bernard Anker* wore the *Danish* court badge,—a large key and riband, fastened to the button of his coat behind. In his person, he was above the common size, of athletic form, and well-looking. His hair, decorated in the old Parisian taste, was highly frizzled and powdered: and, during the whole of his conversation, he stood opposite a large mirror, attentively surveying and adjusting the different articles of his dress: but in all this there was nothing of mere vanity, or of affectation; it was evidently what, among the *French*, would have been once considered the ease and gaiety of a well-bred fashionable beau; although, to *English* eyes, such an air and manner might have been considered as bordering upon those of the *petit-maitre*. However, we soon found, in the conduct of this exemplary individual,

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individual, a lesson against judging too hastily from outward appearances. His heart was possessed by the best qualifications of human nature; and his mind, well stored with intelligence, and full of resources, poured forth, in every conversation, such general knowledge of the world, and of the springs of human actions, whether in court cabinets or in private life, as made all who became acquainted with him eager to join his company¹. His character is so intimately connected with the history of *Christiania*, and of *Norway*, that no traveller, who has published an account of the country, during his life-time, has neglected to attend to it. The noble use he made of his princely income, and of all his vast means of doing good, in the encouragement he gave to every measure likely to promote the interests of the nation; the example he set to those around him, of domestic economy, and of social order; the public donations he made,—in all of which he was aided by a corresponding disposition in the benevolent conduct of his brother,—have caused the names of *Bernard* and of *Peter Anker* to live in the recollection of the *Norwegians*, associated with all that is praise-worthy among them²;—as “rich men, furnished with ability, living peaceably

*Bernard and
Peter Anker.*

(1) “His talents were frequently exercised, and his great wealth employed, in acts of beneficence to his fellow-citizens. He presented the Military Institution at *Christiania* with a spacious house, and increased their funds by a donation of five thousand dollars. THE NEEDY NEVER SUED TO HIM IN VAIN; and, as his liberality was unbounded, the inferior classes looked up to him with confidence for protection and support. * * * * Like the illustrious *Lorenzo de Medicis*, he was a great merchant, and capable of being a great statesman: he entertained an ambassador with as much ease as he would a factor.” See *Wolff's Northern Tour*, pp. 99, 100. Lond. 1814.

(2) “It is highly gratifying to read, that when the *Island of Zealand* was invaded, and taken possession of by a *British* army in 1807, and a country-seat belonging to the

peaceably in their habitations; honoured in their generations; the glory of their times." When we find it written in Sacred Scripture, that "a merchant shall hardly keep himself from doing wrong," be it always remembered, that the *Ankers* were of this class in society. "In the waves of the sea, and in all the earth, and in every people and nation, they had gathered to themselves a possession;"—and the secret of their prosperity was divulged in the cheerful countenances of their tenants and dependants; in the comfort and the gladness which they so largely diffused; but especially throughout all the dwellings of the poor.

In the evening we visited the Governor, and found an assembly, consisting of some of the principal people of the city. The gentlemen were engaged playing whist, with enormous tobacco-pipes of *Meerschaum* in their mouths, smoking in the presence of the women, and spitting upon the floor. In this respect the inhabitants of *Trönjøm* were more polite; as they neither smoke nor spit when ladies are present. The Governor told us he usually smoked about twenty pipes a day. But there is another custom, prevalent throughout *Norway* and *Denmark*, and some other parts of the continent, which in our country would be deemed almost too low for an alehouse: it is that of marking the points of a game at cards with chalk upon the table. A piece of chalk was laid for this purpose upon every card-table at the Governor's, and used both by ladies and gentlemen:

Visit to the Governor.

Barbarisms.

Hon. *Carsten Anker* was entered by a detachment of the Guards, such was the respect shewn by our troops to its hospitable owner, that his mansion remained unmolested during the whole time they remained in its vicinity." *Ibid.* p. 175.

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gentlemen: the same practice is said to exist even at the *Danish Court*. These are trifling barbarisms; but they are nevertheless barbarous; and must be viewed, in any country, as among the marks of a want of refinement: they tell us, at a glance, of the state of the society in which these indications appear. A *German* lady spits upon the floor of her apartment, even when it is covered by an expensive carpet; and may attempt to justify such a breach of good manners, by urging that it is a practice tolerated even at court. *English Peers*, and *English dandies*, aping foreign customs, have sometimes imitated such examples; but nothing can reconcile them to the canons of civilization'.

A Rout.

From the Governor's we went to a rout and supper, at which was convened all the beau-monde of *Christiania*. The rooms were crowded with a variety of company; among which we observed several officers of the army and navy, and a number of beautiful women in elegant and fashionable dresses, exhibiting the latest modes of *London*. These evening parties, being held in routine at the different houses, had become so expensive, that Mr. *Anker*, and others, prevailed upon seventy of the principal inhabitants to consent to an agreement, which they all signed, that certain rules of economy should be observed;—that no person should be at

(1) The habits of the *French* women are in this respect abominable. "Some of their habits," says *Henry Matthews*, in his most interesting Volume of Travels, "must be condemned as shockingly offensive.—What shall we say of the spitting about the floor, which is the common practice of women as well as men, at all times and seasons, not only in domestic life, but also upon the stage, in the characters of heroes and heroines, even in high imperial tragedy?"—See *the Diary of an Invalid, &c.* by *Henry Matthews, Esq. A.M. Fellow of King's College, Cambridge*, p. 425. *Lond.* 1820. *Second Edition*.

at liberty to exceed the stipulations made for every evening's entertainment;—that only a certain number of lustres should be allowed in each apartment, and that the number of wax-candles should be limited for each lustre;—that, instead of an expensive supper, a small collation should be prepared, to which the guests might go, without requiring any person to wait upon them. These new regulations explained to us the meaning of a sight which would otherwise have appeared remarkable; namely, a number of large chandeliers and sconces, which, in the different apartments, were all filled with wax-candles, but not lighted. Our reception was, as usual, of the most hospitable nature: but in *Christiania* a welcome had been prepared for us, by the previous intercession of our two friends, *Malthus* and *Otter*, who had visited this place before our coming: and it was heightened by the kind offices of the two *English* travellers to whom we had been introduced in the moment of our arrival, Messrs. *Kent* and *Jarret*. With these gentlemen we soon became intimate: their amiable qualities had already rendered them popular among the inhabitants, and we found great advantage in their society. The dancing began with the waltz, soon after nine o'clock; but the company had been coming in since six, and formed really a brilliant assemblage, particularly the ladies: there were full as many handsome women, in proportion to the number, as would be seen at an assembly in England. Indeed, to *English* eyes, there was nothing foreign in the appearance of the company: the manners, abating only the smoking and spitting, were those of our own country; and we found the *English* language very generally understood.

From

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Army Regulations.

Laws respecting Marriage.

From the Governor and Mr. *Anker* we learned that a change had just taken place in the laws relating to the enrolment of the peasants for the army. Every man in *Denmark* and *Norway*, born of a farmer or labourer, is a soldier. Those born of sailors, are sailors. Formerly, the officer of the district might take them at any age he pleased; and he generally preferred a man from twenty-five to thirty, before those that were younger. After being thus taken, the man could not marry without producing a certificate, signed by the minister of the parish, that he had substance enough to support a wife and family; and even then it was at the will of the officer to let him marry, or not. This, and the uncertainty in respect to the time of being taken, had hitherto operated as a strong preventive check to population in *Norway*; and accounts for its increasing so slowly, although the people live so long. No man could consider himself as perfectly free to marry, unless he had solid possessions, till he had served his time; which, from being taken sometimes at thirty, might not happen until he was forty years old. We took some pains to inquire, whether the certificate of having enough to support a family were a civil or a military institution. From what we could learn, it appeared to be entirely military; and to have arisen from the fear, that the children of soldiers might fall upon the public, or starve. It had however, without doubt, a very strong influence, in a civil point of view; and was, in fact, the cause why the lower classes of people in *Norway* were in a much better state than could be expected from the barrenness of the country. These laws were now at an end. The liberty of marriage was allowed, without any certificate

certificate or permission of the officer. All the young men of twenty were taken first; and if the number were not sufficient, all of twenty-two, and so on, were added;—it being no longer at the option of the officer to select the men at what age he might think proper. Formerly, any person under thirty-six might be taken; and the older were generally taken first. One proof that the certificate was entirely a military institution, is this; that a peasant, before he was taken, might marry without a certificate: but then he exposed his wife and family to the danger of being starved, if he were taken, unless he could leave behind him a sufficiency for their support; and it was probable that parents would not allow their daughters to marry without some prospect of this kind. The Governor disapproved of the new regulations: he said that the peasants would now marry without any prospect of being able to maintain a family; and the consequence would be, that more would be born than the country could support. He said that the old laws on the subject had lately been very loosely enforced: the effect of which was, an evident deterioration in the morals of the people. Many children died before they attained the fifth year of their age. He thought that the age of twenty, although well suited to such a country as *France*, was too young for a *Norwegian*; because the northern peasant is much later in attaining maturity. All males born in the districts along the coasts of *Norway*, and all in the inland towns who get their living by fishing, are enrolled as sailors; but all born in the inland districts of the country, who subsist by other pursuits, are soldiers. Those born of

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tradespeople in the towns are free ; except with regard to the services they are obliged to perform as burghers.

Climate.

Speaking of the climate, the Governor said, that they had "*huit mois d'hiver, et quatre mois de mauvais temps.*" We had heard the same observation made at *Copenhagen* ; but, judging from what we had seen ourselves, we certainly should not have made the same remark. He said, that during the whole summer he had been only four days without his great coat. A reference to the account we have regularly kept of the state of the thermometer will best shew what the temperature of the climate really is.

Nobility.

With Mr. *B. Anker* we had a long conversation on the subject of the nobility. He said, that some time ago a proclamation had been issued by the Court of *Copenhagen*, that all persons claiming the rank of nobility should prove their just title to that rank by regular descent. Mr. *Anker* proved his descent from a noble *Swedish* family ; but they made some difficulty in granting to him the arms of that family, as he had not himself a title, and the arms interfered with some of the *Danish* titles. However, he gained his point at last, and obtained the coat of arms. About three years since, without making any application, he received the key of Chamberlain, which gave him the highest rank in *Norway*, even above that of the Governor. His brother, Mr. *Peter Anker*, had the rank of General, wore a General's uniform, and was Intendant General of the roads in *Norway*. There are but two titled estates in all *Norway* ; but there are many other estates that have privileges of nobility attached to them. Any person nobly born may purchase any of these estates,

estates, and possess all the privileges belonging to them ; but a person not nobly born cannot purchase them. A commission from the King confers the same privilege as noble birth. An Ensign might purchase a nobleman's estate, and possess all the rights and honours attached to it. All civil offices, as in *Russia*, have a certain military rank. The title of Count gives a certain rank in the army ; but a simple Ensign takes the precedence of a nobleman born, with the largest possessions, if he have no title, and hold no civil office from the crown. In a scale of the different gradations of rank shewn to us, we observed that it consisted of six or seven different classes. The rank of Chamberlain was in the same class with that of the Major Generals of the army, but it was at the head of this class. In the class above this, were the Generals, Admirals, and Counts possessing estates annexed to their titles ; those without, being in the class below.

During this conversation with Mr. *Anker*, the character of the Prince¹ was started. Mr. *Anker* observed, that his character was not well known, and seldom justly appreciated. He believed him to be the most moral man that could well exist, and of the most strict and impartial justice. He was not indeed generous ; but this could hardly be attributed to him as a fault, arising, as it did, from the very small sum which he required for his own expenses ; not more than 12,000 dollars ;

Character of
Prince Frederic.

(1) Now *Frederic VI.* King of *Denmark*, born *January 27, 1768* ; married in *1790* to *Princess Sophia Frederica of Hesse Cassel* ; by whom he hath issue two daughters.

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dollars ; a little above 2000*l.* a year. He never would confer the title of nobility, and was always extremely cautious in granting any office or favour of any kind. His fear of being partial sometimes carried him too far, and prevented his granting any thing, even to a person whom he might consider as worthy of his acquiescence. He was very silent in company, and partly, as Mr. *Anker* believed, from the fear of having some proposition made to him, or some favour asked. If a man had once made a request of this nature, the Prince seldom spoke to him afterwards, although he might still consider him as an object of regard. At *Copenhagen* he is unpopular ; because the people about the court are all poor, and all beggars. Mr. *Anker* seemed to think that he had good natural talents, and a good memory ; but that his education had been much neglected, of which he was fully sensible, and sometimes complained of it himself. Unfortunately, he was not fond of reading, which prevented him from repairing what was deficient. He has had no favourite whatsoever. Count *Bernstoff*, who had been erroneously considered as a favourite, possessed no particular influence. He was only Secretary of State, and not of the Grand Council ; and ought by no means to have been considered as the Prime Minister. The liberality of the Prince in his administration of government, and his contempt for libels, proceeded from a right principle, and from a consciousness of the rectitude of his conduct ; added, perhaps, to a sage foresight, which has always convinced him that the wisest and safest plan, in all such cases, is to let these things alone. A libel had been prosecuted by one of the courts but a short time before ;

and

and the consequence was, that the book, which had been before neglected, rose into notice, and sold in the most rapid manner; three or four editions of it being successively published.

A young officer entered into conversation with us, who spoke English remarkably well. He seemed not much to like the army; mentioned the brutality, and want of education in the greater part of his companions; and expatiated with much feeling upon the starving condition of the inferior officers, and their forlorn hope of promotion. All officers, except for some particular merit during actual service, rise by seniority; which makes promotion, during peace, extremely slow. An education during four years, at least, at the military academy either of *Copenhagen* or of *Christiania*, is requisite to the obtaining of a commission; and afterwards, those who are not noble often serve for some years as non-commissioned officers, before they can hold a commission. He said there was hardly a captain in his regiment that was under sixty years old; and seemed to think that the Prince, with all his attention to the army, had not done much to increase the comforts of the soldiers and officers.

State of the
Army.

The next day, *October* the fifteenth, we called upon Mr. *B. Anker*, and saw his magnificent house. We found him in his morning-gown, sitting in his study, surrounded by books and papers. He related to us the difficulties he had encountered, during his applications to the Court of *Denmark*, to obtain a University for *Norway*; and he began to be aware that it was a measure to which the *Danish* Government would

CHAP. I.

Danish Policy
with regard to
Norway.

would never accede. He was not even allowed to purchase libraries for the public use of the *Norwegians* in their own country. A *Danish* party exists in *Christiania*, which is also violent against the establishment of a University in *Norway*. The *Danish* policy is, to compel all the young students to resort to *Copenhagen*, and there to spend their money; whence they generally return injured in their principles and in their health'. Mr. *Anker* had visited almost all the more civilized parts of *Europe*, and spoke foreign languages with great fluency. He was well read in the fine arts, and had formed a valuable collection of books and pictures. Among the most valuable of the latter, we were shewn some designs by *Le Brun*, and some remarkable proofs of the laborious exactness and minuteness of execution characteristic of the *Flemish* school, in a series of pen-drawings done by *Orlacht* of *Anvers* in 1761. In Mr. *Anker's* library, public lectures were delivered to the young *Norwegians* by himself and others. The following words were inscribed in large letters over the door of this apartment: *DOCENDO DISCIMUS*. Here we saw a complete apparatus for philosophical and mechanical purposes, the work of *Nairne* and *Blunt* of *London*; astronomical instruments, globes, and a museum of antiquities, and of natural history, containing minerals, shells, &c. "I must send to *England*," said he, "for almost every thing:

(1) "It was a line of policy which did not extend only to the students of *Norway*: all persons who had money to spend were thus allured to the capital; and although no one better understood, than *Bernard Anker*, the nature and ends of the decoy, yet he himself ended with falling into it." See *Wolff's Northern Tour*, p. 100, *Lond.* 1814.

thing: all the linen of my family is sent annually to *London* to be washed." And when we observed that the stock of linen must be very large to admit of such an arrangement, he added, "that it was absolutely necessary to have a large stock of every thing in *Norway*, and each man must keep it within his own stores." "We cannot," said he, "go to market, or to shops, as you do in *English* towns: here, those who would live handsomely must collect into their own warehouses, from all parts of the world, whatsoever they may have occasion for, from the flour of which they make their bread, to the beef, the pork, the poultry, and all the stores necessary for a whole year's consumption." This makes living in *Norway* perhaps more expensive than in any other part of Europe. Mr. *Anker* told us, that he had thirty servants upon his own establishment, and that his brother kept sixty. The fuel consumed upon his premises, for the number of different stoves, amounted to above four times as much as a nobleman's family would consume in *Copenhagen*: and we were rather surprised to hear him say that fire-wood was an expensive article, in such a region of timber. But horses constitute the article of heaviest expenditure to a gentleman in *Norway*, owing to the general high price of hay, which had been particularly scarce during the last spring. The common price of hay averaged about five pounds a ton; this year the price had been doubled; and indeed it could hardly be had for money. Mr. *Anker's* stud amounted to twenty horses for pleasure, besides draught-horses; and he had eight or ten carriages. The great preparation for the year's consumption in *Christiania*, as in all the rest of *Norway*,

Domestic
Economy at
Christiania.

is

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is made in the autumn. The season of slaughter, for the supply of the whole winter, takes place in the month of *October*; and the number of cattle killed upon this occasion is astonishing. The smallest and most private families salt a certain quantity; but in the larger houses it is a work of peculiar exertion, especially for the mistress. To become good *Norwegian* wife, a lady must absolutely be educated in *Norway*. The mistress of each family presides over all the autumnal hoarding of provisions, and in person directs every operation. In one morning that we called upon Mr. *Anker*, eighteen bullocks had been slaughtered, and his stock was not by any means complete. Some of the meat is pickled; the rest dried. The fat is melted into tallow, and nothing wasted. Even the blood is saved.

Hospitable
Entertain-
ment.

We went, by invitation, to dine with another merchant, Mr. *John Collet*, at his country-seat; having brought to him letters of recommendation: and in writing an account of *Norway*, however trivial the description of a dinner may be in general, we should indeed be guilty of an omission, if we neglected to describe the sort of reception which we experienced beneath his hospitable roof. He had a very extensive farm to manage; holding nearly 400 acres of land in his own hands. He treated rye in the same manner that we do wheat; preparing the land for it by two or three other crops successively, so as to get a good crop of rye on the same land once in three or four years. His cows were fed, in winter, on turnips and carrots, preserved in cellars. Potatoes thrive remarkably well: they were introduced into *Norway* about thirty years ago, and were daily coming more into use.

use. The price of labour, he told us, was one shilling in summer, and ten shillings in winter, without victuals. His wife, a very agreeable woman, was reckoned a pattern for all the wives in *Norway*. We found a very large party already assembled at Mr. *Collet*'s house, and, among them, Mr. *Anker*, and our friends Messrs. *Kent* and *Jarret*. Here we were introduced to Dr. *Müller*, a very intelligent physician, and a great mineralogist, who sate by us during dinner, and was very communicative upon all subjects relating to the country: he had married the sister of an *English* physician, and spoke the *English* language with great fluency. Such was the magnificence of the feast to which we had been invited, that it would hardly be possible for our own Sovereign to afford a more sumptuous entertainment. We had every delicacy of the country, and all the wines of *Europe*, together with every species of costly *liqueur* and confectionary;—yet every article had been brought forth from the storehouses of the family. A favourite beverage, called *Bishop*, was served in copious bowls of rich porcelain: it consisted of Burgundy and claret, mixed with sugar, spices, and Seville oranges. But, besides this, large goblets were continually handed about, containing Champagne, hock, hermitage, Cape, tent, sack, cherry, and Madeira. Port-wine, which had been twenty-three years in bottle, and of excellent flavour, was circulated in decanters, with Burgundy and claret. According to the custom of the country, we remained many hours at table: but we did not wish to move; for the most cheerful conviviality, and the liveliest conversation, was maintained the whole time, without

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Anecdotes of
the Emperor
Paul of
Russia.

dispute or intoxication. The only anxiety on the part of our host and hostess, arose from a fear lest their guests should not be as well fared, and as merry, as it was possible to make them. A considerable part of our mirth was caused by the anecdotes related of the Emperor *Paul* of *Russia*; at this time the subject of general conversation in most parts of *Europe*; and who was, without exception, the veriest state buffoon that barbaric power had ever elevated to a station in which, unfortunately for those around him, he could not be considered as contemptible. He had the means of doing mischief, and he largely indulged in them. However, being here remote from the rod of his vicious tyranny, the antics and the fury of this insensate fool were considered only as subjects of laughter; affording excellent amusement to those who merely heard of them: and we joined in the hearty merriment excited by the stories told of the *Scythian* despot, and of the creatures his favourites. The follies and absurdities related of *Paul* were without number. We may give, as specimens, only two instances. Almost every one has heard of his famous ukase against different articles of wearing apparel. Nothing was more strictly prohibited in *Russia*, than the wearing of pantaloons, trowsers, and shoe-strings. At this time, a vessel, containing the *Danish* cadets, arrived at *Cronstadt*. The Emperor despatched a messenger with orders to invite the commanding officer of the ship, and all the young men, to his palace. The *Danish* officer replied, that, by the laws of *Denmark*, the youths under his care were compelled to wear trowsers, and shoe-strings instead of buckles; consequently they could not presume to make

make their appearance at the *Russian* court in a dress prohibited by the Emperor. The next day an imperial ukase was issued, commanding all officers of the *Russian* navy to new-model their attire, and to appear dressed "*like the Danish cadets at Cronstadt.*"—But a little before, a servant belonging to the *Danish* ambassador at *Petersburg* had been knocked down by a *Russian* sentinel, in one of the public streets of the city, for daring to appear in pantaloons; and the new regulation took place while an explanation of this affair was actually pending between the two courts. But, of all things likely to irritate *Paul*, and to put his temper to the severest trial, there was nothing more effectual than a pair of black breeches. A foreigner being presented to him in a full suit of black clothes, the Emperor had much ado to refrain from kicking him out of the audience-chamber, and, making a motion with his foot to that effect, ordered the sable visitant to be instantly turned out of court. The *Norwegians* were among the objects of his aversion: but his dislike to them did not arise from their wearing black breeches, but from some indistinct rumours he had heard of their jovial *clubs*, and of the songs of freedom in which they indulged at their convivial meetings. The very word *club* was so connected, in his mind, with the club of the Jacobins at *Paris*, and other democratical associations, that he considered it as only applicable to revolutionary purposes; and, therefore, that every member of a *club*, of whatsoever nature it might be, ought to be considered as a reprobate, and interdicted from all communion with the inhabitants of "all the Russias."

The

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Antient Teu-
tonic Customs.

Lamentable
conduct of
Great Britain
towards
Norway.

The *Norwegians* drink toasts with the solemnities of a public ceremony, mingling with them songs, as did all the ancestors and collateral branches of the *Teutonic* tribes¹. At Mr. *Collet*'s table, we had the satisfaction of witnessing some of those old customs which one grieves to see laid aside, because they characterize historically the distinctions of nations. The master and mistress of the house, rising from their seats, perform a brief recitative, as a preliminary song to the toast which they are about to propose. In these solemn airs the whole company joined; and they had a very fine effect; not being rendered the less interesting to us when we found they were the preludes to sentiments which Englishmen hail with enthusiasm. In this manner we drank "THE WOODEN WALLS OF OLD ENGLAND"—"BRITISH COMMERCE"—"RULE BRITANNIA"—"GOD SAVE THE KING"—and, with what grief of heart is it called to mind, as it stands written in our journals, and was so often reiterated from one end of the country to the other—"A PERPETUAL ALLIANCE BETWEEN ENGLAND AND NORWAY." No one, at this period, had even dreamed of the probability of an event which was to separate the inhabitants of the two nations, perhaps for ever. The links by which they were united were "the very bonds of peace, and of all virtue." Every feeling which animates the heart, and is the boast of an *Englishman*; which induced a native of *Great Britain* to sit down by a *Norwegian* as by his friend; were those which are most congenial

(1) Vid. Homer. Odyss: A. v. 152. Athen. Deipn. lib. I. p. 14. A. Ludg. 1657.

congenial to the inhabitants of *Norway*;—holy patriotism; manly courage; unblemished integrity; a sacred regard for all the duties which hold men together in society; the father to his child; the husband to his wife; the subject to his King; the creature to his Creator: and that Jesuitical policy, which, while it dissolves these ties, teaches that “it is lawful to accomplish a great good by doing a little wrong,” is therefore disowned and scouted by every worthy inhabitant of these now divided countries.

As soon as the company rise from table, it is customary to shake hands with the master and mistress of the house, and to make an obeisance; or, being upon an intimate footing with the family, to salute the fair hand of the lady who has presided. All present then adjourn to another room, where coffee is served. There is no separation of the two sexes, as in *England*; where a custom, more barbarous than any thing in *Norway*, enjoins that the ladies be expelled soon after dinner, and sent into a sort of solitary exile until midnight. In *Norway*, as in more polished circles of society upon the continent, both men and women retire together. The gentlemen then light their pipes. A clean pipe is seldom offered; and this want of cleanliness, connected with a custom in itself barbarous and uncleanly, is one of the few disagreeable things of which a stranger has to complain. The card-tables are never covered with cloth; and they are chalked all over, as at an ale-house. In playing cards, the game to which the better sort of *Norwegians* are most partial, is a species of *whist*, called *Boston*: it is in vogue all over *Scandinavia*, and is less simple and more hazardous than

Ceremonies of
retiring from
Table.

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than our common game of *whist*, at which they also play. Whatever the game may be, the stakes are always low. Gambling seems to be almost unknown in *Norway* in polite company.

Magnificent
Villa of *Peter*
Anker.

Upon the following day, *October* the sixteenth, we had a still more sumptuous entertainment provided for us, at the stately country-seat, not to call it a palace, of Mr. *Peter Anker*, distant only three *English* miles from *Christiania*. We went to dine with him, accompanied by his brother. He received us with as much magnificence as any foreign Prince, but with all the hearty welcome and hospitality of his country, added to the splendor of a King. The suite of apartments was quite princely, and they were fitted up in the most elegant style. His gardens were laid out in the *English* taste; and the situation of his mansion, upon the borders of a lake at the foot of a rocky mountain, gave to the whole an appearance of great grandeur. In the gardens we were shewn an old *Norwegian* dwelling, preserved as a specimen of what the *Norwegian* houses were two centuries before; with all its furniture, and other appurtenances, as it then stood. Upon the walls of this building we observed the names of many travellers who had visited the spot, and, among others, that of the late Mrs. *Godwin*, thus inscribed, with a pencil, near the door—" *Mary Wollstonecraft*."

In the manners of Mr. *Peter Anker* there was something remarkably distinguished from the generality of his countrymen. His appearance, in the midst of the splendid scene over which he presided, was altogether that of the most accomplished potentate. Every part of his vast establishment was in
itself

itself a curiosity, and merited particular attention. He himself conducted us over it. “We shall pass through the kitchens,” said he, “that *English* gentlemen, who are fond of neatness, may be convinced that what we have to set before them is dressed and served with cleanliness:” and certainly we never beheld any thing similar. The dinner was preparing in large airy apartments, where every thing was in the utmost order. Not a cloth was to be seen in the hands of any of the attendants, but what was perfectly white and clean, and of the finest linen. All the kettles and dishes and tables were polished, and without the smallest appearance of being soiled by use. One of the most pleasing sights in these lower apartments was the table spread for the poor: upon which, with the same degree of neatness as for his own family, all the pieces of broken victuals were collected, and set forth for distribution, into portions, according to the size of the different families for whose use they were appropriated. His stables and greenhouses were next exhibited, and everywhere we observed the same display of decent order and superior arrangement. In the greenhouses were pines, apples, melons, and peaches. We saw also the cellars, as storehouses, for preserving meat and vegetables through the winter. Every housekeeper lays in his stock of provisions in *October*. Returning to the grand saloon, we began to examine his collection of pictures, made by himself, at a great expense, during his travels in *Italy*. It filled several chambers, which, opening into each other, presented altogether such a series of apartments as one sees in the *Italian* palaces, and especially in those of *Genoa* and *Naples*.

His collection
of Pictures.

One

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One room was entirely filled with original drawings of the old Masters; and these, instead of projecting from the walls, were let into them, and so glazed; which had a novel and pleasing effect. Of the drawings, and of the paintings, we shall mention only the principal, in a Note; it never having entered into our *Scandinavian* speculations to expect a *dépôt* of the Fine Arts so far towards the north¹.

At

(1) *Drawings.*

1. A Capucin Friar, with Children.—*Paolo Veronese*; perhaps by his son, *Carletto Cagliari*.
2. St. Cecilia. A most exquisite and undoubted work of *Raffaello Sanzio*. In this curious work of *Raffael*, the saint is surrounded with figures, grouped with matchless skill and effect. She is singularly represented as holding in her hands the pipes of an organ.

Paintings.

1. Ulysses and Circe, by *Pompeo Battoni*, the rival of *Mengs*. A large picture, with great coldness in the colouring.
2. Lot and his Daughters; (*Michael Angelo da Caravaggio*;) shewing the high degree of interest which this painter could give to the most vulgar forms, by his ideal tints of light and shade.
3. A Crucifixion; said to be of the school of *Guido*; certainly by one of the *Bolognese* masters, and a most valuable picture, of small size. The effect of the *chiaro oscuro* is here scientifically set off, with all that magical power of colouring which the painters, who followed the *Caracci*, so marvellously displayed.

4, 5, 6. Se-

At dinner, Mr. *P. Anker* told us that he kept fifty cows, and consumed the whole of their produce upon his own establishment. When he was in *England*, he said, he had to complain of the great scarcity of cream which prevailed every-

- 4, 5, 6. Select pieces by *Le Nain*, representing scenes of still life; vegetables, green-stalls, &c.
- 7, 8. Battle-pieces by *Bourgononi*.
9. Annunciation of the Nativity to the Shepherds of Judæa. *Jacopo da Ponte*. Painted with all the vigour of the older *Bassano*, but with that monotony, and meanness as to the objects, into which this fine painter degenerated in the latter part of his life.
10. Some pictures attributed to *Leonardo da Vinci*;—a name easily bestowed upon, and often given to, paintings which have been highly finished with a dry and stiff outline, without any of the real excellence of *Leonardo*.
11. Several works of *Gherardo della Notte*, and of *Schalcken*; representing, as usual, night-scenes by candle and torch-light.
12. Portraits by *Denner*, purchased at very high prices: these were executed with all the laborious exactness and *fac-simile* touches which distinguish the highly-finished works of this master; in whose pictures, as in those of his wife and himself, even the pores of the skin are said to be visible.

In this list, only the most striking pictures have been noticed: nor would any such attention have been paid even to these, had they been found among the more frequented haunts of the Fine Arts. In the billiard-room we saw a complete set of *Hogarth's* engravings, and they were the very best impressions from his plates.

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Prejudices of
the *Norwe-*
gians respect-
ing food.

every-where, even in the best houses. In *Norway*, a great quantity of cream is consumed by the inhabitants; but especially during the strawberry season, which lasts six weeks. They give the preference to the white alpine strawberry, and think their wild strawberries very superior in flavour to our garden strawberries in *England*. The horses of the country, though small, are remarkable for their strength and speed. He told us that a short time ago he possessed a horse capable of trotting a *Norway* mile, when harnessed to a sledge, within a quarter of an hour. The peasants and poor of *Norway* will not eat rabbits: they fancy them too much like cats. It is, moreover, difficult to make them cultivate the potatoe where that vegetable has not been yet introduced; so bigoted are they to old habits in respect to food. This, however, is pretty much the case in all countries. Who could prevail upon an *Englishman* of ordinary circumstances to eat a rat¹, or a hedgehog? Yet these are acknowledged as affording delicious morsels in countries where the inhabitants are not liable to the same prejudices.

Courts of
Judicature.

We had some conversation on the mode by which justice is administered in *Norway*. There are four principal courts of judicature; one in each government, in which the Grand Bailif or Governor presides. From these, however, an appeal lies to the Supreme Court at *Copenhagen*. In the trial of every cause,

(1) An officer of the navy once told the author, that rats, caught on board our ships of war and dressed as rabbits, are sometimes considered as good articles of food; and he confessed that he had often relished a roasted rat.

cause, a jury of six men assists, not chosen as with us, but for life. There is also, in every parish, a Commission of Conciliation, before which every cause must be stated, previous to its going into a court of justice: and it is the office of the commissioners to mediate between the parties, and, if possible, to compromise matters. The party refusing to abide by the opinion of the commissioners is condemned to all the costs, if it do not afterwards appear upon trial that he was in the right.

Mr. *Anker* spoke of the connection of *Norway* with *Denmark* as most fatal to the interests of the former. He mentioned, at the same time, the great attachment borne by the *Norwegians* towards the *English*, and their hatred of the *Swedes*. If *Norway* were connected with *England*, and the trade left perfectly free, it is thought it would soon rise to a flourishing state. This project was once held by Mr. *Pitt*; and among the *Norwegians*, with whom *Copenhagen* is considered as the sink of all the wealth of their country, it would not fail to meet with encouragement. Indeed, such were their feelings at this time with regard to our own country, that we had every reason to be convinced, if *Denmark*, as it was expected, had entered into an offensive alliance with *France*, the people of *Norway* were resolved to invite an invasion from *Great Britain*, and to have acted in concert with us against the *Danes*.

Norway imports annually 300,000 quarters of corn. Her principal exports are *deals* and *iron*. Mr. *B. Anker* possessed one hundred and fifty privileged saw-mills, situate chiefly in the *Glommen*, which runs to *Frederickstad*. Indeed, the port
of

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of *Frederickstad* was, for the most part, possessed by two merchants; Mr. *B. Anker*, and Mr. *de Rosencrantz*: the former of whom considered it as being more advantageous to him than all his other possessions, on account of the facility with which all the timber is floated. Those who have forests up the country, are obliged to transport the timber on sledges in the winter, which makes a great difference in the expense, and, moreover, causes the delay of a year. A saw-mill cannot be erected without a privilege from the King.

Commerce of
Christiania.

The commerce of *Christiania* consists in the exportation of *timber, iron, copper, alum, glass, tar, and skins*. The value of the exports amounts annually to the sum of 150,000*l.* sterling. The *iron* works of Mr. *Peter Anker* alone yielded annually ten thousand schippunds¹ of *iron*. The best *iron* which *Norway* produces comes from those works: they are at *Bærum*. The *deal planks* from *Christiania* are in greater estimation than any other. This arises principally from the great improvements made in sawing them, and in cutting the timber for the sawing-mills. The *Christiania* planks have all neat marks upon them, by which they may be known. Patent saws are used in cutting them; and no person is allowed to saw timber for exportation, unless the patent saws are used. The *iron* and *copper* works belonging to *Bernard Anker* are situate at the following places:—

Moss.

(1) Six and one-third *schippunds* of *Norway* are equal to one *English* ton.

MOSS.—Iron works, and a foundry for casting cannon, and for the fabrication of bar and rod iron, nails, &c.

HAKKEDAHLS.—Iron work. Here there is a most complete fabric for amalgamation, and the richest copper ore found in *Norway*.

HADDELANDS.—Copper work.

STUKKENBROCKS.—Mines, and copper-works, where there are very rich cobalt ores. These are situate eight miles from *Kongsberg*, in the parish of *Nummedahl*.

The annual imports of *Christiania* are valued at 100,000*l.* sterling. They are principally from *England*, and consist of cloth, stockings, Norwich camlets, hard-ware, lead, coal, &c. Add to these 100,000 barrels of corn from *Denmark* and the *Baltic*, to the amount of 50,000*l.* sterling annually.

The population of *Christiania*, including that of the old town of *Opsloe*, where the Bishop of *Aggerhuus* now resides, and the small suburbs *Scherwiger*, *Grönland*, and *Ejerdingen*, amounts to 9000 inhabitants. The King of *Denmark* receives annually two millions from *Norway*; and of this sum he expends only 300,000, of which 250,000 are lavished upon the unprofitable silver mines of *Kongsberg*. The population of all *Norway*, according to an estimate brought down to the present year, amounted to 970,000 inhabitants, in an extent of 322 *Norway*, or 2100 *English* miles, from the point of *Lindernæs* to *Wardøehuus*. The corn required for the whole country amounted to 600,000 barrels, at $2\frac{1}{2}$ per barrel, or 1,500,000 rix-dollars, equal to 300,000*l.* sterling. The exportation of all *Norway* was estimated at nine millions of rix-dollars, or 1,800,000*l.* sterling, in addition to the profits she derived from the freights of a great number of ships.

When

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Manners of
the *Christi-*
anians.

When a stranger sees the magnificent dinners to which he is invited in this country, he naturally concludes that some rich market has been ransacked to procure for him an entertainment: yet not a single article has been purchased for the occasion. There is no part of *Europe* where more sumptuous or more varied banquets are exhibited, than in *Christiania*; and yet the whole of every entertainment, as was before stated, is produced from the store-rooms belonging to each house. The mistress of the family superintends and presides over the whole; and when all is prepared, she comes forth, and receives her company with as much cheerfulness, and conducts herself with as much propriety and elegance, and as much seeming indifference respecting the economy of her table, as the most "high-born dames in rooms of state." It has been said, that the women of *Norway* are domestic slaves, and their husbands domestic tyrants. Some truth, we are ready to allow, may be found in the former part of this sweeping assertion; although there be none whatsoever in the latter. But the slavery of a *Norwegian* wife is voluntary; she delights in her labour, because it is "the labour of love;" and if this be "domestic slavery," it is well repaid by domestic happiness; by a full measure of reciprocal regard and affection in the fidelity and increasing attachment of her husband: for "as the sun when it ariseth in the high heaven, so is the beauty of a good wife in the ordering of her house." An objection has also been made to the *Norwegians*, that they continue too long at table during their meals; but the *English* waste more of their time in the same way. It is true that the meal is longer in *Norway*;
because

because a greater variety of dishes and wines are brought round, one after the other: but no person is pressed to eat: every one takes or rejects what is presented to him, as he pleases: and the conversation not being general, he converses with his neighbour, or listens to others more disposed than himself to be communicative. At the same time, in describing the manners of the people of *Christiania*, it must be confessed that they are not so strictly *Norwegian* as those of *Trönjëm*. From the more frequent intercourse which here takes place with other countries, the ill effects of what is called *refinement* become daily visible, while the *Christians* retain a number of barbarisms which might well be laid aside. The good old virtues of this country are making hourly sacrifices to the follies and caprices of other nations. To place this in the most striking point of view, nothing more is necessary than to compare the manners of the people of *Trönjëm* with those of the inhabitants of *Christiania*. In the former of these two cities, the *Norwegians* appear as their best friends would wish to see them. The inhabitant of *Trönjëm* cannot be better described than in the language of one of our *English* Poets:—

Comparison
between the
Inhabitants of
Trönjëm and
Christiania.

“ An honest man, close button'd to the chin;
Broad cloth without, and a warm heart within.”

The man of *Christiania* is more a man of the world, and more of a beau: the respectable old custom of his forefathers is laid aside, and with it many of the qualifications which render a man amiable and praise-worthy. His language is more complimentary and consequently there is less of truth
in

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in it. The native of *Trönjëm* gives you an invitation to his table, and you find it well supplied; but the supply is such, that you might find it there if you had not been invited: the stranger is therefore always welcomed, and with sincerity, because his arrival causes neither interruption nor inconvenience. On the other hand, the native of *Christiania* prepares a feast so magnificent, that his guest perhaps regrets he was ever invited where every thing tells him he is to be considered as a stranger; and even there an apology is made to him because he has not been provided with a more costly entertainment. The inhabitants of both the one and the other make their professions freely, and both are men of generous feelings; but the profession on one side is sincere, and the proffered service marked by its obvious utility:—on the other, it has more in it of the mere *façon de parler* of a polished people; and the generosity shewn, however proper, is sometimes ostentatious. In venturing these remarks, from a due regard to correctness of delineation, no reflections are aimed at any individuals whose names have been already mentioned. The observations must be considered as directed towards a whole people, and in the full belief that the same people would subscribe to their accuracy. Something beyond mere temporary impressions attaches the author of these remarks to *Norway*, and to its inhabitants. Gratitude for the warmest hospitality, and the most generous kindness, might seem to call for nothing but expressions of acknowledgment and of praise; but it is a duty owing to those whom we esteem, to point out the channels by which evil is communicated to them, and their
social

social welfare endangered. This danger arises from foreign corruption, foreign luxury, and foreign manners. May the best friends of *Norway* always find it peopled by true *Norwegians*; by the descendants of a race of heroes who were never enervated by vices of foreign growth,—rank weeds, engendered in less healthful territories, and fostered by hotter suns! To what other cause, than to the intercourse with foreigners, can be attributed the change which a traveller finds in *Christiania*, as to the honesty of the lower orders? It has been already mentioned, as a remarkable fact, that we never saw a beggar in *Sweden*¹; but *Norway* has many beggars, and *Christiania* is full of them. In the northern districts they are less numerous, but here they actually swarm. The very passages and chambers of the inn where we lodged were never free from mendicants. They would open the doors of our apartments without hesitation, and enter even into the bed-rooms. If they found any person within, they were clamorous for money: if not, they supplied themselves with whatever they could lay hold of as most portable. Some of them had the audacity to steal stockings belonging to our servants, from their bed-rooms, before their faces. These, again, are traits in describing national manners, which will not be quite acceptable.

(1) "In passing through the country" (*Sweden*), "which has the character of being poor, one is surprised in never meeting with any beggars or miserable objects who demand or excite charity. The reason, as assigned by the *Swedes*, is, that there are hospitals for all such persons; and the poor, who might be expected to sue for charity, are supported by their own parishes. The same plan is in existence in *England*; why does it not produce the same effect?" *Dr. Fiott Lee's MS. Journal.*

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Institutions
for the Poor.

acceptable in the sight of the *Norwegians*; but they arise from that mixture with the inhabitants of other countries, to which, as a place of foreign commerce, *Christiania* is rendered liable. The genuine native *Norwegian* is neither a beggar nor a thief. The consequence, however, of so much indigence, mixed with so much wealth, is a constant call upon the rich to support and maintain the poor. Nothing conduces more to keep the latter in a state of indigence than the institution of public poor-houses, however benevolent the views of their founders. *Bernard Anker*, the pattern in his own example of benevolence towards the poor, supported two houses of this description at his own expense; but then he wisely contrived that they should become houses of industry as well as of charity¹. He eminently possessed that "voluntary and active charity which makes itself acquainted with the objects which it relieves; which seems to feel, and to be proud of, the bond which unites the rich with the poor; which enters into their houses; informs itself not only of their wants, but of their habits and dispositions; checks the hopes of clamorous and obtrusive poverty with no other recommendation but rags; and encourages with adequate relief the silent and retiring sufferer, labouring under unmerited difficulties²." If ever there

(1) There were two asylums for orphans; one public, and the other private. Both were supported by *Bernard Anker*, and at his own cost.

(2) See the valuable chapter upon "The direction of our Charity," by Professor *Malthus*, in his admirable work on "The Principle of Population," Book iv. p. 562. London, 1803.

there were a man in whose individual character every qualification had been combined, fitted to form the patriot, the statesman, the friend and guardian of society; the deliverer of the needy; the public benefactor; the patron of genius, of literature, and the arts; it was *Bernard Anker*. Nor let the tribute pass without rendering also a due regard to the distinguished virtues of his brother; who, retiring from the noise and dissipation of cities, upon the borders of his *Norwegian* lake, and in the solitude of his magnificent villa, dedicated all his hours to promote the good of his country and the general welfare of mankind. And let it be repeated, that these men were Merchants of *Christiania*. Excellent examples! EUROPE has not had their parallel. Nor can the history of the world afford more striking instances of the national advantages to be derived from the exertions of private individuals so circumstanced;—who directed the streams of their benevolence into channels where they might flow to the utmost possible public advantage; who, while they “fed the hungry, and clothed the naked, and visited the fatherless and widows in their affliction,” were all the while engaged in active scenes of commerce; and who encouraged industry, and rewarded merit,—taking the most especial care that the means for these great ends should neither be wasted by want of foresight, nor exhausted by indiscriminate profusion.



CHAP. II.

CHRISTIANIA: INCLUDING A VISIT TO THE SILVER MINES OF KONGSBERG.

Want of Booksellers' Shops—General aspect and condition of the Streets—Cathedral—State of Literature—Public Library—Dr. Müller's Collection of Minerals—Journey to Kongsberg—Marble Quarries of Gilljebek—View from Paradise Hill—Drammen—Hogsund—River Louven—Kongsberg—Original Discovery of the Silver Ore—State of the Works—First Settlers—Remarkable Specimens of the Native Metal—Wages of the Miners—Present Establishment—Cause of the loss sustained by Government—The different Excavations—Approach to the Works—Geological nature of the Mountains—Manner in which the Kongsberg Silver is deposited—Descent into the Mine—Native Mineral Carbon—Crystallized Native Silver—Erroneous notions entertained with regard to the Crystallization of Minerals—Metallurgical operations for the treatment of the Kongsberg Ores—Public Seminary for Mineralogy—Professor Esmark—Collection of Minerals belonging to the Kongsberg Academy—Customs shewing the common origin of the Teutons

Teutons and Greeks—Superiority of the Norwegian Women—Medical Properties of the Linnæa Borealis—Condition of the Peasants—Alum Works—Synthesis which takes place in the production of Alum—Return to Christiania—Public Balls—Rage for English Fashions—Further account of Bernard Anker—Timber Trade—State of Religion in Norway—Fortress of Christiania.

THERE is not in all *Norway* one bookseller's shop. In *Christiania* and in *Trönjem* there are, it is true, bookbinders and stationers, who sell a few Bibles, Prayer-books, and Almanacks ; but it is in vain to look for other publications. The chief articles in the shops are, grocery, *Manchester*-cottons, *Birmingham* and *Sheffield* wares of the cheapest and worst kind, woollen drapery, buckles and buttons, iron ware, hinges and locks, and such other common articles as may be observed in the shops of the poorest villages in *England*. The widest streets of *Christiania* are not so broad as *Bond Street* ; and in these the shops, though numerous, make no figure. The pavement, as in some of our old towns where improvement has not been attended to, slopes towards a filthy sewer in the mid-way. Into this middle channel, of course, is cast all the dirt and drainage of the houses, where it is left to stagnate. Towns in which such nuisances are tolerated cannot be wholesome ; yet of this nature were many of the cities of the *Greeks* and *Romans*¹. The streets intersect

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Want of
Booksellers'
Shops.

General
aspect and
condition of
the Streets.

(1) That the present state of *Constantinople* exhibits what the city was under the *Roman* Emperors, has been already shewn in that part of these Travels which relates to *TURKEY*. In the plates of the magnificent edition of *Banduri's Imperium Orientale*, (*Paris*, 1711,) there is a series of engravings made from the bas-reliefs of the *Historical Pillar*, which exhibit the streets of *Constantinople* as they existed in the time

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intersect at right angles, and in all other respects *Christiania* has been built after a regular and uniform plan: at the intersections of the streets there are conduits for supplying the town with fresh water. The outsides of the houses are not so neat as those of *Tröndjem*; neither has the town by any means so cleanly an aspect; nor can it boast of so much picturesque beauty, although its situation among inlets of the sea give it a pleasing appearance. The approach to all the houses is by a flight of steps. The lower story seems to be half buried, like the offices for menials of the houses in *London*; and the windows of these subterraneous apartments are protected from the snow by a shed built of wood, which is made to cover and close over them. The cathedral is a plain building, remarkable only for the resemblance which is exhibited in its interior decoration to some of our old churches in *England*, where the pews of the principal families, like so many separate oratories, are surrounded by high clumsy partition sides, containing case-ment windows, glazed^r. Such pews are suspended over the
aisles

Cathedral.

time of *Arcadius*: and in these engravings the *Roman* infantry is represented upon a high causeway, serving, as it does now, for the foot passengers; while the cavalry occupy the deep midway channel, which, at present, is always filled with all the ordure and refuse cast from the houses. Here also the wretched captives, dragged in triumph after the chariots of the *Roman* army, were made to walk.

(2) Many years, in all probability, will not elapse before every trace of these old *Gothic* pews will have disappeared from our churches. They were constructed in times of feudal splendour, when the persons of high-born dames were deemed too sacred to become the gaze of the profane vulgar. Even during the solemnities of public devotion, a certain degree of seclusion from the rest of the congregation was resorted to as a mark of their distinction; and their appearance in the church was like
that

aisles in the church at *Christiania*. We visited this building during divine service, upon a Sunday, in the morning. It was a very fine day, yet there were not twenty persons assembled : and, judging from our casual visit upon this occasion, we concluded that the duties of the Sabbath are less regarded here than in any other town of equal size in *Europe*. Over the altar we observed a representation of the Last Supper, in very barbarous wooden sculpture. The figures were as large as life ; and, among these, an image of *St. John* had been squeezed in between the table and the effigy of our Saviour, in a most ludicrous manner, as if about to be strangled. Being at a loss to reconcile this situation of the Evangelist with any thing related of him in the Gospels, we applied for information to others who were better informed ; who told us that it was necessary he should be so placed, that he might appear as in the bosom of *Jesus*.

The literature of *Christiania*, although an Episcopal See, is at a low ebb. It cannot be otherwise, separated as this place is from the mother country, without a University, and without the common convenience even of a Bank for its commerce :

State of
Literature.

that of *Turkish* ladies in a mosque, being shut up in cages fronted with trellis-work. Some of these cages yet exist in old *English* churches. There is one in the Church of *Hothfield* in *Kent*, belonging to the noble family of the *Tuftons*, Earls of *Thanet*. The remains of others may be seen in various parts of our island. Another mark of the striking similarity of manners between the inhabitants of the two countries, is the practice which exists in *England* and in *Norway* of dividing the lower orders of the congregations according to their sexes ; making the men sit apart from the women, during divine service.

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commerce: consequently, it has produced no eminent literary characters. But *Norway*, in general, has produced many: as, for example, the celebrated *Baron Ludwig Holberg*, who founded the Academy of *Sörøe*, and was the author of works in history and poetry; Bishop *Pontoppidan*, who wrote the *History of Norway*, a very jejune performance, and unfortunately the only one that has been translated into *English*; Professor *Schönning*, who wrote the best history, and several dissertations upon the Antiquities of *Norway*; Bishop *Gunnerus*, who founded the Royal Society of Sciences at *Trönjem*, and wrote upon the Natural History of *Norway*; Professor *Vahl*, one of the best botanists in *Europe*: add to these, the old historians *Tormadus Torfæus* and *Snorro Sturleson*. But although *Christiania* may have been deficient in the higher walks of literature, it has not been without poets, as in the instance of *Tullin*; nor without men of eloquence, as in the examples of the Bishops *Hersleb* and *Deichmann*. In the rest of *Norway*, poets have been numerous; as in the examples afforded by *Nordahl Brunn*, *Hans Bull*, *Pram*, *Stockfletts*, *Vibe*, *Zellitz*, *Fasting*, *Rein*, *Schmidt*, *Vessel*, *Steenerssen*, *Storm*, &c.;—names familiar among “old *Duovre*’s Echoes,” although hitherto unheard in *Britain*; and as little known in any other part of *Europe*, as the Songs of the *Scalds*, who accompanied the armies of their ancestors, and were as necessary to the prowess of a *Norwegian*, as either *Druid*, or *Bard*, among the *Celts*. Poetry has been long cultivated in *Norway*, and it was held in esteem among the inhabitants from the earliest periods of their history. “The Muse had broke the twilight gloom,” long before they

they had any literary communication with more civilized nations. Their poetry, therefore, such as it is, must be regarded as their own: it may be compared indeed to the streams from their native mountains, rolling impetuously along their valleys, but unmixed with a single drop from any of the waters of *Helicon*.

As connected with this subject, the literature of *Christiania*, we shall now mention its Public Library. It was the legacy of Mr. *Deichmann*, a native of *Norway*. The anti-room contains a curious painting by *John de Mabeuse*, well worth the notice of those who are interested in viewing the early productions of the art; also a complete set of antient and valuable engravings from the Cartoons of *Raphael*. Within the library there are no classic authors: it consists chiefly of modern historians; but there are some copies of more antient writers upon *Denmark* and *Norway*. We saw a very fine edition of the *Latin* translation of *Snorro*, which was printed, in folio, at *Copenhagen*, in the year 1777: also a copy of the *French* folio *Encyclopédie*; and the superb *Danish* botanical work, entitled *Flora Danica*. Among the rest, amounting to some thousand volumes, there were few worth notice. They had no *Icelandic* manuscripts; but we saw here a curious collection of medals, and many valuable minerals. In the mineralogical series there were three hundred different specimens of *silver* from the works at *Kongsberg* and other *Norwegian* mines. But every thing of this kind, in *Norway*, is eclipsed by the cabinet of minerals belonging to Dr. *Müller*; to which, as we had free access, during our stay here, we often resorted. We shall,

Public Li-
brary.Dr. Müller's
Collection of
Minerals.

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therefore, now add a few observations concerning this valuable collection, and its very worthy owner.

Dr. *Müller* is a native of *Denmark*. He was once well known in *London*, where he distinguished himself by his talents, as a physician, a chemist, and a mineralogist. In our country he was the friend and follower of *Hunter*; and was the first person who publickly delivered lectures in *Mineralogy* in our metropolis. Dr. *Babington*, who has since composed a *System of Mineralogy*, was one of his pupils. Upon the continent he was successively the disciple of *Lavoisier*, *Klaproth*, and others: in *Germany* he studied under *Werner*; and in *Holland* obtained the prize-medals for his compositions in *Latin* poetry. His collection of *minerals* at *Christiania*, which he has annually augmented, and kept with uncommon neatness and care, is the most beautiful, and, if we except that of Assessor *Esmark*, at *Kongsberg*, also the most geognostic of any in all the north of *Europe*. It amounted, at this time, to upwards of 4000 specimens. But what rendered it particularly valuable in our estimation, was, that it contained many specimens illustrating the mineralogy of our island, which cannot be seen in our own country, because they are not now found in *Britain*. The interesting varieties of *tin oxide*, in the form of *stalactites*, whether as *wood-tin*, or under any other trivial name, together with a copious series of crystals from the mines of *Cornwall*, were the finest specimens we had ever seen. To these were added a beautiful series of bituminous bodies, selected under circumstances of association, all of which were calculated to illustrate some fact in the natural history of

of the mineral, or to confute some prevailing error. Among the *English* minerals we also saw varieties of *actynolite*, and of *asbestos*, from the western coast of *Scotland*; extraneous fossils from our *limestone* quarries; and varieties of *granite*, and other compound minerals, from the quarries of *Aberdeen*. Among the foreign minerals were specimens of the utmost rarity; such as *rubies* and *diamonds* in their matrices; together with an important series from the *Swedish* and *Norwegian* mines, identifying many substances which have been separated in all the most celebrated systems of mineralogy¹. Add to these the most magnificent specimens of *native gold*, *silver*, *antimony*, *iron*, and *copper*, which any collection in *Europe* can boast; and some idea may be formed of the importance and riches of this remarkable cabinet. Dr. Müller has also an extensive knowledge of *botany*, and possesses a valuable *Herbarium*.

It was in company with this gentleman, and our *English* friends, Messrs. *Kent* and *Jarret*, together with a little boy, the son of Dr. Müller, that we set out for the *Kongsberg* mines. We left *Christiania* upon the twentieth of *October*, in a coach and four, followed by our phaeton drawn by a pair of horses. The roads were very bad, and at this season of the year rendered almost impassable by the depth of the mud

Journey
Kongsberg

(1) For the *mineralogical* reader it will be proper to mention a few instances of this nature; tending to simplify the science of *mineralogy*, and to curtail it of many superfluous names. Dr. Müller has succeeded in identifying *amphibole* with *tremolite* or *grammatite*; also *pyroxene* with all the substances called *kokkolite*, *sahlite*, *mussite*, *alalite*, and *diopside*; and again, *Gabronite* with *Scapolite* and *Wernerite*.

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Marble Quar-
ries of Gill-
jebek.

mud which covered them. Our route lay along the coast upon the western side of the bay, affording beautiful views of the distant islands. We changed horses at *Ravensbörg* and *Gilljebek*¹. After passing *Gilljebek*, at the distance of about an *English* mile, we came to the marble quarries upon *Paradise Hill*. Here we halted; and collected from the quarries a few very interesting minerals, for which this vein of transition marble² is remarkable; namely, *asbestiform tremolite*, containing imbedded crystals of dodecahedral *green garnets*, and also dodecahedral crystals of *green carbonated lime*, which seem to have owed their form to cavities left by the *garnets*: they were not, however, hollow, as pseudomorphose crystals generally are; and might easily be confounded with the *garnets*, from their resemblance in size, colour, and form. The *geological* features exhibited by the rocks at *Gilljebek* are indeed remarkable: the *marble* lies

(1) These places are named as they appear in *Pontoppidan's* large map. They are pronounced *Ravensburg* and *Giellebeck*.

(2) All the rocks here have been described by *Von Buch* as belonging to the *transition* formation; otherwise this *marble* is, to all appearance, of the kind called *primitive marble*. It has the same crystalline structure, and the same whiteness. Speaking of the rocks in the neighbourhood of *CHRISTIANIA*, *Von Buch* says, "I found here stones which were never supposed to be in the *transition* mountains, but which were here seen with such a distinctness of stratification, that not a doubt could remain as to their relations in this respect: * * * * *Porphyry* in immense mountains reposing on *limestone* full of petrifications; a *syenite* over this *porphyry*, consisting almost entirely of coarse-granular *feldspar*; and in the same manner, a *granite* not different throughout in its composition from the *granite* of the oldest mountains. *Granite* above *transition limestone*! *Granite* as a member of the *transition* formation!" *Von Buch's Travels through Norway*, &c. p. 45. Lond. 1813.

lies upon a stratum of *granite*, and beneath the *granite* occurs a schistose *porphyry*. This *porphyry* in several places rises to the surface; the basaltic hills near *Drammen*, mentioned by *Linnæus* as a species of *trap*, being composed of it. Many varieties of *porphyry* are found upon *Paradise Hill*; also *red* and *grey granite*; *green jasper*, and *ribbon-jasper*; and *red* and *yellow feldspar*. In the pavement of the streets of *Christiania*, there had been found, by Dr. *Müller*, blocks of *ribbon-jasper*; but in our own observations upon the *jasper* found here, and also near *Christiania*, we should, in some instances, almost hesitate to consider it as *jasper*; that is to say, as a pure *hydrate of silica*. It seemed rather a kind of rock flint, approaching in its degree of hardness to that of *jasper*, but having a more earthy fracture, and not being susceptible of so high a polish. The proportion of *alumina* in the stone seemed to be very considerable; and so it is indeed in some of the varieties of *jasper* said to have been analyzed by *Kirwan*³ and *Rose*⁴; but the fact is, we have no good analysis of the substance commonly called *jasper*; and hence the ambiguity attached to all the descriptions of this mineral. The name is sometimes applied to veined *agate*, a compound mineral consisting of *chalcedony* and *quartz*; sometimes to striped *chalcedony*; and even in some instances to *greenstone trap*, where the paste is fine, and the particles of this aggregate too minute to be discerned by the naked

(3) See Allan's Synoptic Tables, Tab. xxii. *Edin.* 1814.

(4) *Ibid.*

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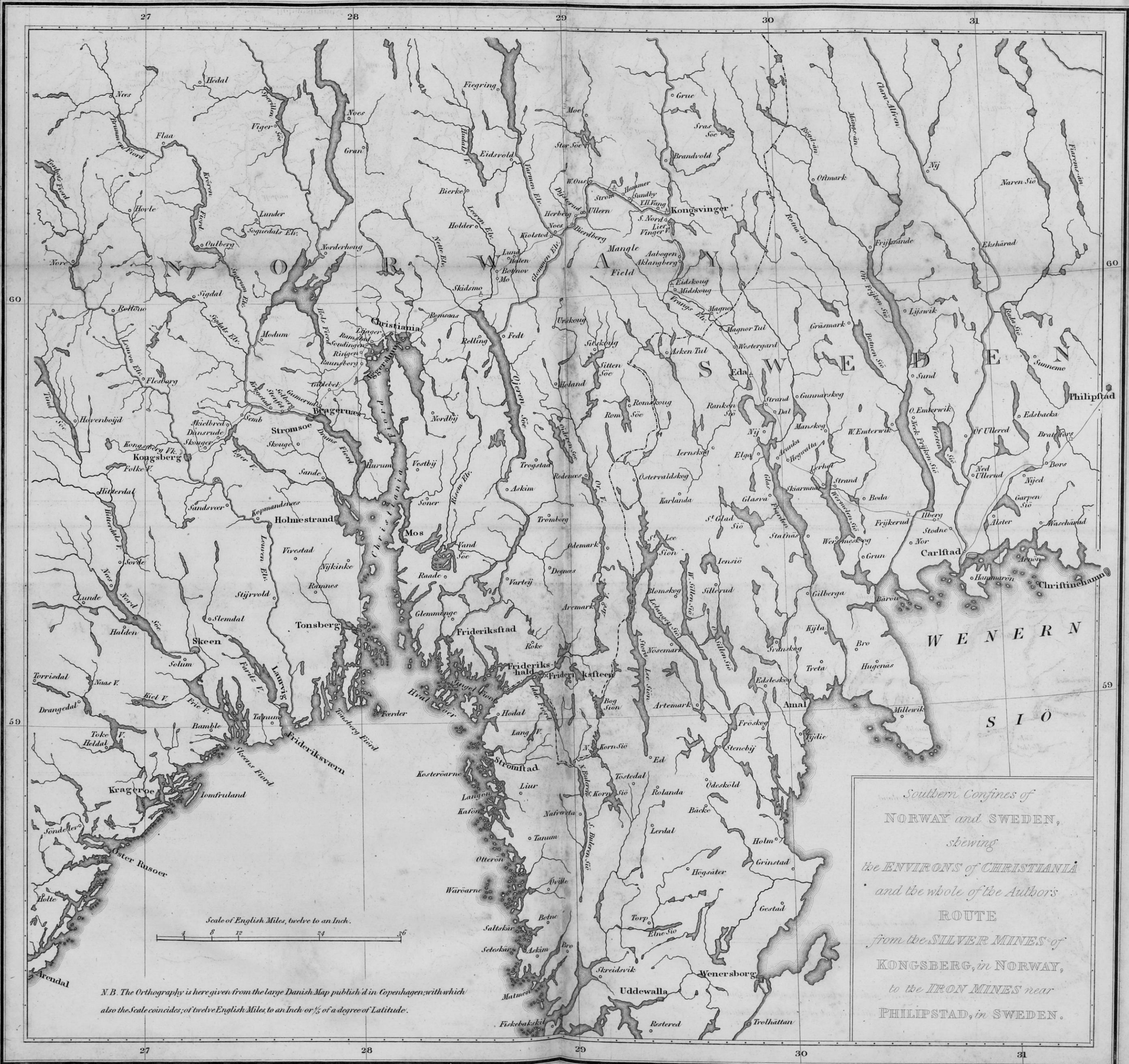
naked eye. Still more frequently has the name been applied to *hornstone*; especially when the layers of *hornstone* are of different colours, so as to occasion the striped appearance which gives rise to the appellation of *ribbon-jasper*.

View from
Paradise Hill.

Drammen.

From *Paradise Hill* we had a delightful view of the whole of *Leer Valley*, with the towns of *Tangen*, *Strömsoe*, and *Bragernæs*; which go under one common name of *Drammen*, owing to the river *Drammen*, whereon these towns are situate. The descent upon *Drammen*, as it is thus called, may be reckoned among the finest things in *Norway*. To the right of the spectator rise mountains of basaltic *porphyry*; towards the left and in front extends a magnificent valley, combining almost every thing that nature and art can contribute to render such a prospect pleasing to the eye; upland and dale, and rocks and woods and water, decorating the smiling scenes of human industry, and appearing with an aspect of greater cheerfulness, because garnished with many picturesque buildings, denoting a numerous and thriving population¹. The people of *Drammen* are said to be richer than those of *Christiania*; but they lead a more private and retired life. The principal resident foreigners are from *Holland*; and these *Dutch* families may be considered as holding a station at *Drammen* similar to that of the *English* in *Christiania*. There are also some
Italians

(1) "So thickly peopled," says Mr. Coxe, "that every fifty yards we observed a cottage, and for several miles together seemed to pass through a continued village." *Travels into Norway*, vol. V. p. 232. Lond. 1791.



N.B. The Orthography is here given from the large Danish Map publish'd in Copenhagen; with which also the Scale coincides; of twelve English Miles to an Inch or $\frac{1}{3}$ of a degree of Latitude.

*Southern Confines of
NORWAY and SWEDEN,
shewing
the ENVIRONS of CHRISTIANIA
and the whole of the Author's
ROUTE
from the SILVER MINES of
KONGSBERG, in NORWAY,
to the IRON MINES near
PHILIPSTAD, in SWEDEN.*

Italians settled here, who are in a flourishing way. The timber of *Drammen* does not find a market in *England*; the deal planks being short and bad: but it goes to *Holland*, and is there sold.

We changed horses at *Bragernæs*, and came to *Hogsund*; *Hogsund.* having pursued our course through a populous and delightful valley, along the banks of the *Drammen*. The situation of *Hogsund*, on the river and near to a cataract which turns some saw-mills, gives it considerable beauty. The clouds were now low, and hung in various fantastic shapes upon the mountains. Hence the distance to *Kongsberg* is two *Norwegian* miles, over a very hilly road. Leaving *Hogsund*, we were ferried over the river, and continued our route to *Kongsberg*, upon the *Louven*°. *River Louven.* We passed a small but pleasing lake upon our left. Towards *Kongsberg* the mountains became higher, and more denuded towards their summits. We descended a long and steep hill into the town of *Kongsberg*, entering it by a wooden bridge over a roaring cataract of the river *Louven*, which made a most tremendous appearance at this season; perhaps owing to the late rains, which might have given a character of more terrific grandeur to this fall of water than it usually possesses.

A man must be indifferent indeed to natural history, who does not feel some degree of curiosity respecting *Kongsberg*, *Kongsberg.* in whose mines a mass of *native silver* was found, in one entire

(2) See the Map.

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Original discovery of the silver ore.

entire piece, weighing nearly six hundred pounds'. But, independently of its mineral celebrity, *Kongsberg*, as a handsome town, is a place of considerable distinction in *Norway*. The streets are wide, and many of the houses are neat and well-built. Its very existence, however, is owing to the excavations carried on here in search of precious ore; for when this was first discovered, there was hardly a cottage near the spot. This event took place in the year 1623,² by means of a boy, whose foot, in pursuing some cattle, was arrested and caught by a hook or thread of native silver projecting above the surface of the rock. Very different accounts are given respecting the profits which the *Danish* Government has derived from the *Kongsberg* mines: the general opinion, however, seems to be, that the undertaking is attended with loss. It was stated to us upon authority which we were inclined to credit, because coming from those who had the principal management of the works, that the annual loss to Government

(1) " Quid Norvegiæ in fodinis Kongsbergensibus, ubi jam per seculum vix nisi argentum nativum et semel iterumque etiam aurum, tanquam auræ melioris progenies, in lucem et diem gelidissimum plenissimo sæpe cornu prodierat, cujus annum proventum ab anno 1711, ad 1724, sistere volupe est, ut inde miranda naturæ phænomena in regno subterraneo existentia luculentius contemplari liceat." *Svedenborg in præfat. "Regni Subterrani."*

(2) *Pontoppidan* is agreed as to the date of the discovery, but differs as to the manner of its being made. He relates a somewhat improbable story of the herdsmen pelting each other with the ore. (*See Nat. Hist. of Norway; vol. I. p. 183. Lond. 1755.*) And the story of the boy, whose foot was caught by a thread of native silver, is too much of a piece with the circumstance related as to the origin of the famous *Peruvian mine*, not to suppose that the two narratives had, at the least, a common origin.—The discovery of the rich mine of *Potosi* is said to have happened on the 24th of April, 1545.

Government amounted to 240,000 rix-dollars: and when we inquired, why, under such circumstances, the excavations were continued, we were told that the employment given to a great number of inhabitants, who would otherwise be without the means of subsistence, induced the *Danish* Government to persevere. But that an endeavour is making to contract the works, is plain from this circumstance, that every miner is encouraged to leave *Kongsberg* by a premium offered to him of a year's pay after his departure. The very nature of the mine must have given rise to extraordinary vicissitudes of hope and disappointment; because, as the search is carried on in pursuit of imbedded masses of native metal, dispersed for the most part in capillary forms and unconnected laminæ, rather than in any regular veins, it must happen that the labour will frequently prove abortive for a considerable length of time, and, at intervals, be perhaps attended with sudden and unexpected success. *Pontoppidan*, whose account of the works here was written in 1751, calls it "the present flourishing mine at *Kongsberg*." He says, that, to the best of his knowledge, it is "the most considerable and of the greatest profit of any mine in *Europe*; and in respect of pure massy silver veins, quite inexhaustible." The first inhabitants of the new-built town of *Kongsberg*, when the works commenced under the auspices of *Christian the Fourth*, were miners from *Germany*; and they were the ancestors of the many thousands now living

State of the Works.

First Settlers.

(3) Nat. Hist. of *Norway*, Vol. I. p. 183. Lond. 1755.

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Remarkable
Specimens of
the Native
Metal.

living there. In process of time, the German settlers mixed with the other inhabitants; and now all of them are under the direction and government of the College of Miners. The *silver*, as it was before stated, occurs in lumps of native metal: but so unusual is this circumstance, that when the mine was first discovered, many refused to give credit to the fact of such masses being actually brought to light. We shall mention some of the most considerable. The first, is that preserved in the Royal Museum at *Copenhagen*¹; its weight being five hundred and sixty *Danish* pounds, and its value five thousand rix-dollars². It is a mass of native silver nearly six feet in length, and in one part above eighteen inches in diameter. Similar masses were discovered in the year 1630, and in 1719, and in 1727, which severally weighed from two hundred and fifty, to two hundred and eighty, and three hundred pounds, each. In the shaft called *St. Andrew*, a piece of pure silver was found, in 1727, weighing two hundred and seventy-nine pounds; and, in the same year, another, weighing three hundred and four

(1) See the account of *Copenhagen*, Part III. Sect. I. of these Travels, p. 78. *Lond.* 1819.

(2) *Pontoppidan* says it is the same of which the measure in *Danish* feet, &c. is thus given by *Olig. Jacobus*, in his *Museum Regium*, p. 31. "*Minera ingens argenti ex fodinis Norvegicæ, pedum quinque et pollicum sex longitudinem æquat, crassitiem verò in circumferentia pedum quatuor.*" And the dimensions, as here stated, seem to coincide with our own measurement of the specimen now preserved in the Royal Cabinet. "*Anno 1666, d. 24. Augusti ex fodina Norv. Regiomontana, quæ Novæ Spei appellatur vulgò, extracta est 560 librarum pondere, et a præfecto fodinæ memoratæ, pretio 5000 Imperialium estimata. Huic non dissimilis massa, anno 1630, regnante in Dania divo Christiano Quarto, ex fodina Norvegica quæ Benedictio Divina vulgò, eruta est, quæ 3272 Imperialium pretio estimata.*"

four pounds, was found in *God's-Blessing* shaft. These occasional masses, occurring casually in the rock, and being soon interrupted in their passage through it, or dwindling gradually to nothing, the miner must continue to dig through the barren stone until he has the good fortune to meet with more of the same nature, which in one day may reward the fruitless labour of months, and perhaps of years. *Pontoppidan* says, that after the discouragements of a long and fruitless toil through the barren interstices of the mine, "it suddenly exhibits several thousand pounds weight of silver, and thus discharges all arrears and embarrassments, and animates to further prosecution." Such was the statement made by a writer in the middle of the eighteenth century. According to the account given to us by the present Governor, 130,000 dollars are coined annually from the produce of three mines. In general, 2300 men are employed, who earn each about a shilling a day of our money. This seems very little; but, in addition, the King always supplies the miners with corn at a fixed price, much below the average value. At this time, the price of rye, per ton, was six dollars and a half, and the miners were allowed rye at two dollars. The miners work from five to one o'clock, summer and winter. When they work in the afternoon, they are paid an extra allowance. There is generally employment for the children of the miners at twelve years of age. The principal bed of this mineral treasure is a mountain between two small rivers, the *Kongsberg* and the *Jordal*, which fall from the westward *Blee-Field* Alps into the *Lowen*.

Wages of the
Mines.

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*Louven*¹. But the *silver* is not limited to this mountain; it extends its deposits for some miles throughout all the adjacent districts: this is proved by the new mines which from time to time have been undertaken in several places. The mine, or shaft, called *Old God's Blessing*, one of the most antient and most rich, has sometimes within a week yielded some hundreds of pounds of pure native metal. It is nearly two hundred fathoms in depth, and the circumference at the bottom forms a clear space of several hundred fathoms². When *Pontoppidan* drew up his account of the *Kongsberg* mines, the annual produce amounted in value to "a tun of gold and a half, and sometimes three quarters." The number of the officers of all ranks, the daily miners, labourers, and pensioners, exclusive of their children and families, who had their daily support here, according to the establishment, amounted to near five thousand persons³; and the number of all the inhabitants of *Kongsberg*, to between ten and eleven thousand souls. To the great number of officers, under the names of Intendants and Assessors, possessing salaries from Government, is owing the vast expense of these works to the nation. These officers, in fact, engross a considerable part of the profits; and if, as it is very possible, their number were to be reduced, the profits

Present Establishment.

Cause of the loss sustained by Government.

(1) See the Map.

(2) *Pontoppidan's Nat. Hist. of Norway*, vol. I. chap. 8. sect. iv. Lond. 1755.

(3) *Ibid.*

profits from the mines would be more sensibly felt. By dismissing a number of such persons, half of whom can only be considered as *drones*, and augmenting the number of miners, the *working bees*,—that is to say, of those actually employed in useful labour,—the finances of the *Kongsberg* establishment would soon begin to wear a more promising appearance. From the lavish expenditure of the public money, the want of economy visible in every part of the establishment, and the want also of that vigilance which is necessary to prevent embezzlement where precious metal is brought to light in a state actually ready for the mint, it was easy to perceive, during our own examination of what was going on here, that the works were not the property of individuals; but that, as they belonged to the crown, so they were open to all manner of peculation, no one feeling a sufficient degree of interest in their prosperity to prevent waste, or even robbery.

The mountain on which the mines nearest to the town are situate is about 1295 *French* feet (1498 *Danish* feet) above *Kongsberg*, which itself lies 926 feet above the level of the sea. Many of the neighbouring mountains are much higher. The base of those, in general, in which the *silver* is found, is chiefly *hornblende* and *mica*, but the veins of ore are contained in *red transition granite*. The deepest of the *Kongsberg* mines measures 375 fathoms perpendicular from the surface. The richest of them all now affords very little ore: its appellation is nevertheless curious—" *God's help, in time of need*;" and it will become "*a time of need*" in reality to these poor people, if the mines should altogether fail.

The different excavations.

No

CHAP. II.

No less than 14,000 families are either immediately dependent upon them for their support, or collaterally derive from the mines their means of subsistence. Of this number, 2300 are miners: but there are 7000 families in *Kongsberg* maintained entirely by the works; and also an equal or greater number in the country, who, either by procuring fuel for the smelting-houses, or in some other way contributing by their industry to the maintenance of the mining establishment, are entirely indebted to it for a livelihood.

Approach to
the Works.

We visited one of the mines which they were now working. Like the others, its situation is between the rivers we have mentioned in that Alpine barrier of mountains which separate the provinces of *Christiansand* and *Aggerhuus*. The approach to the works is by a continued ascent the whole way: and were it only for the striking view afforded, in this ascent, of the town of *Kongsberg*, the mountains, and the beautiful valley of the *Louven*, it would be worth the

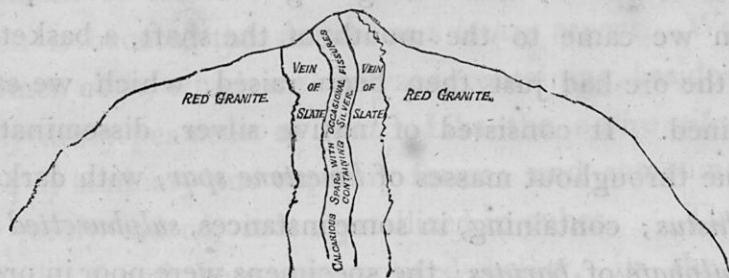
Geological na-
ture of the
Mountains.

journey required. All the mountains, among which the *Kongsberg* mines are situate, are stratified: the strata occur in regular beds extending from *north* to *south*, but having always a dipping inclination towards the *east*. These strata are moreover intersected by the veins of *slate* and *calcareous spar*, which serve as the matrices of the silver ore, in fissures bearing across the strata from *east* to *west*, and dipping towards the *south*. From all this, it would be evident that the whole formation belongs to the class of *transition rocks* which *Von Buch* has described as being so remarkable in this part of *Norway*; namely, *transition granite* reposing on *transition limestone*, and being itself intersected by veins

of

of *slate* and *limestone*. But *Von Buch* speaks of "the primitive mountains which surround *Kongsberg*:" and if we were to judge from detached specimens of the *red granite*, in which the veins of *silver* are found, we should be disposed to consider this kind of *granite* as belonging to the oldest class of primary rocks. We will endeavour to shew, by a

Manner in which the *Kongsberg silver* is deposited.



The more antient or primitive fissures intersecting the strata are perpendicular; but those which are now worked have an inclination towards the *south*. By the cut here afforded, it will be seen that the *silver*, as it generally lies, is found in a vein of *calcareous spar*, and that this again occurs in a vein of *schifver* of *slate*. But there is a remarkable leader to the ore, without the presence of which the miners have little hope; namely, *iron pyrites* and *iron oxide*: whenever the intersecting fissures contain these minerals, then *silver*

(1) "The primitive mountains which surround *Kongsberg* stretch much less southward than we might well believe. Scarcely two *English* miles down, beyond the *Dal-Elv*, under the Church of *Hedingstad*, and before we come to *Hellestad*, the *gneiss* disappears under the dark bluish-grey fine granular *limestone*." *Travels through Norway*, &c. p. 419. Lond. 1813.

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silver is found; but if the *pyrites* and the *iron* disappear, the *silver* also fails; which is a very remarkable fact, as connected with the history of mining. Every thing indeed belonging to the nature of these mines is worth the most scrupulous attention; because mines of *native silver*, although not unfrequent in *America*, are the most rare in *Europe*: and among the very few instances in which such a deposit has been observed, this of *Kongsberg* is the most conspicuous. When we came to the mouth of the shaft, a basket filled with the ore had just then been raised, which we eagerly examined. It consisted of native silver, disseminated in laminae throughout masses of *limestone spar*, with dark veins of *schistus*; containing, in some instances, *sulphuretted silver*, and *sulphate of barytes*: the specimens were poor in precious metal, but served to give some idea of the produce of the mine; which is now an ore almost too poor for the operation of stamping; and now so rich, that the *silver*, as if it had been fused and drawn out into threads and capillary fibres, is seen in native masses, protruding beyond the surface of the stone¹. Sometimes the most beautiful *arborisations*, as they are called, of the native metal, are exhibited by contiguous crystals of *native silver*, in octahedral and in cubic forms.

Descent into
the Mine.

We descended into the mine by means of ladders, as into the *Cornish* mines; being everywhere struck by the proofs of the same inconsiderate expenditure of the public money, and
the

(1) See the *Vignette* to this Chapter; made from a specimen now in the author's collection, which he brought from the *Kongsberg* mines.

the same waste among the works. There can be little doubt but that these mines would become very profitable, if they were in private hands: and perhaps the best thing the Government can do, is to farm them out to individuals.

Besides *native silver*, these mines produce that very rare substance, the *native electrum*, or *auriferous native silver*. We found it a very difficult thing to procure any tolerable specimens of this curious native alloy of *gold* and *silver*. When it occurs, the metal has a *brassy* aspect. We had a specimen of it, which we analyzed, containing, besides *silver*, nearly thirty per cent. of *gold*. Like the *native silver*, it is found in laminary and capillary forms; and sometimes, but very rarely indeed, it is crystallized in cubes. The other minerals found here are noticed below, in the note^a: with the exception of the ores of *copper*, the specimens of which are exceedingly rich; but they are not sufficiently abundant to make this metal an object of research, otherwise than for the *silver* with which it is combined^b.

We

-
- (2)
1. Sulphuret of silver, massive and crystallized.
 2. Red antimonial sulphuret of silver, ditto.
 3. Argentiferous sulphuret of lead.
 4. Sulphurets of copper and iron.
 5. Sulphurets of zinc, brown and yellow.
 6. Fluete of lime, of various colours.
 7. Lime spar, in great variety of forms.
 8. Quartz, ditto.
 9. Sulphate of barytes.
 10. Comolite, or pot-stone.
 11. Asbestos, in the forms of *mountain-leather* and *mountain-cork*.
 12. Anthracite.
 13. Iron ores—magnetic iron—*loadstones*, &c.

(3) It is nevertheless collected, after being separated, and in considerable quantities, from the basons in the smelting-works: the pure *copper* being made into *cakes* of the same size and form as are those of the *silver*.

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We descended into the mine by ladders nearly perpendicular; meeting with occasional landing-places, in our way down. At the depth of a few hundred feet, the veins of *silver* were occasionally pointed out to us; but those which we saw were so poor that they could scarcely be discerned by any but a miner's eye. The richest veins are those which dip towards the *south*: and they are especially rich when they occur associated with the *sulphuret of iron*, or *pyrites*; called, by our *Cornish* miners, *Mundic*. The ore, and all the rubble of the mine, were drawn up by a water-wheel, at the distance of four or five hundred yards from the mouth of the shaft; the communication being carried on the whole way by cumbrous machinery. From the spot where this shaft has been opened, we had a fine view of *Kongsberg* and of the surrounding country.

After a most laborious investigation of the different parts of the mine,—which only served to convince us, as it often happens to travellers, that as much knowledge of the real nature of these subterraneous deposits may be obtained by studying the ores above ground,—we were again conducted to the surface. It was here we saw, for the first time, a mineral, then rare in cabinets of mineralogy, but which has since become very common; namely, *anthracite*, or *native mineral carbon*, which frequently occurs in the *Kongsberg* mines, associated with the silver ore. That a substance so nearly related to *diamond*, containing the same elementary body, almost in a state of equal purity, should externally resemble a piece of common *pit-coal*, will not appear so surprising as it might otherwise do, when we know that the *diamond* itself has been found to exhibit

Native Mineral Carbon.

exhibit a similar appearance¹: but it may serve, among many other phænomena, to manifest the absurdity of ascribing the presence of *carbon* and its compounds, when in a mineral state, and in primary and transition rocks, to the decomposition of vegetable matter. It would be a much wiser way of reasoning upon the operations of nature, if we were rather to consider the vegetable produce of the earth as deriving its existence from the minerals which supply it with the alimentary principles of life. The only difference between *anthracite* and *bituminous coal* is, that, in the first, *carbon* is almost in an uncombined state²; whereas, in the second, it has entered into combination with one of the constituents of *water*; in which state it may very possibly mineralize *wood*, or any other organic body, just as they become mineralized by other native compounds;—for example, by the *hydrates of silica*. But to infer from such accidental circumstances that the native compound has owed its origin to a change sustained by the vegetable body, is taking too narrow a view of the subject, and building a theory upon fortuitous

(1) Opaque jet-black diamonds, although rare, are known to diamond-merchants; and the black flaws or specks, which are sometimes seen in diamonds, are nearly allied in their nature to *anthracite*.

(2) The following analysis of *conchoidal anthracite* will be found very nearly to agree with that of the *native mineral carbon* of Kongsberg:

Carbon	- - - -	96 . 66
Alumina	- - - -	2 . 0
Silica and iron	- - - -	1 . 33

99 . 99

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fortuitous and partial phænomena'. We were surprised at the difficulty we experienced in procuring fine specimens of the *native silver*; but it seems they are sent, as soon as found, by the Assessors, who have the first selection, to the dealers and principal collectors in *Copenhagen*; insomuch that the resident mineralogists at *Christiania*, and even at *Kongsberg*, are under the necessity of procuring their own specimens, at very advanced prices, from that capital. Our good friend Dr. Müller, by his acquaintance with a widow of one of the Assessors, obtained for us permission to purchase a few varieties; in some of which, the crystals of *native silver* were very perfect, and in the octahedral form. There are few things less obvious in the natural history of minerals, than the manner in which Nature conducts her operations for the developement of the native metals; although there be evidences which tend, at least, to prove, that these phænomena result from the decomposition of ores by chemical affinities. *Capillary native silver* is often a result of the decomposition of the *sulphuret of silver*; and in the *Hungarian* mines it is found upon decomposing sulphurets.

Native

Crystallized
Native Silver.

(1) Among the absurdities urged in support of the vegetable origin of *coal*, is that of *wood* thus mineralized by the bituminous body. The author was once directed to a specimen of fossil timber, part of which was of *coal* and the rest of *wood*, as to a proof that the origin of *pit-coal* was thereby plainly demonstrated, and that it was owing to decayed vegetables. With just as much reason did the *French Savans* insist upon deriving all the *aluminous* rocks of the globe from decomposed plants, because the impressions of the leaves of *ferns* are seen in *slate*; and all the *limestone* from the decomposition of animal bodies, because it contains the impressions of *shells* and other organic remains.

Native silver is also developed in the *Peruvian* mines, by the action of *iron* and other metals upon the *muriates of silver*. The same may be said of the developement of *native gold*, which results from the decomposition of the *sulphurets*; as may be proved by the action of heat upon the auriferous ores of *tellurium*, and by the spontaneous decomposition of the auriferous *sulphurets of iron* found in the mine of *Berezow*, in *Siberia*. But then the crystallization of these metals!—the perfect crystalline forms assumed by both of them! by the *native silver* at *Kongsberg*! and by the *native gold* of *Hungary* and of the *Brazils*!—how are these phenomena to be explained; without supposing that the two metals have been previously held in a state of solution, and that the crystals have been deposited from a liquid state; being held in solution, either by the fluid matter of heat, or by some other fluid? “*The particles of bodies,*” it will be urged, “*in order to crystallize, must be at liberty to move;*”—all of which is very easily said, and is, perhaps, after all, mere sophistry; it having been already proved, and beyond dispute, in another part of these Travels³, that the particles of precipitated bodies, or sediments, do combine according to the laws of cohesion; that is to say, do assume the utmost regularity of crystalline form and structure; the most perfect symmetrical arrangement; and even change from a state of opacity, to a certain degree of transparency (as in the example of the crystallized alabaster of *Antiparos*), after the original deposit from

Erroneous notions entertained with regard to the crystallization of Minerals.

(2) See Part II. Sect. II. chap. x. p. 410. Lond. 1814.

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from the fluid state has taken place, and in cases where the molecules were precluded from the possibility of motion. These are surprising facts: and they deserve the more attention, because, as they seem to militate against the theory which has been long established respecting a regularity of structure in minerals, so they may perhaps serve to explain, whenever they are satisfactorily accounted for, the hidden laws by which crystallization is effected.

Metallurgical operations for the treatment of the Kongsberg Ores.

Upon our return to *Kongsberg*, we visited the smelting-houses, and inspected the metallurgical operations for the reduction of these remarkable ores. The process is very simple: it is that which the *French* writers call *imbibition*, by means of *lead*¹. They melt together, in nearly equal parts, *lead* and *native silver*, divested as much as possible of its matrix; and thereby obtain an alloy, consisting of *lead*, combined with from thirty to thirty-five per cent. of *silver*. The *lead* is afterwards separated, by the usual process of cupellation. We were amazed at the facility with which all manner of persons obtain admission to these works, when the rich ore brought from the mines is lying about in heaps, covering the floor. Persons disposed to pilfer, would find no difficulty in removing large portions of it. The ore is of four kinds; which severally bear the following appellations:

1. *Gedieget Sölv.*
2. *Meddel Ertz.*
3. *Skeide Ertz.*
4. *Slig.*

The

(1) See "Traité de Min. par *Alexandre Brongniart*," tome II. (Article *Métallurgie*), p. 337. Paris, 1807.

The *first* of these consists of pure *native silver*.

The *second* of *native silver*, with a portion of stony matrix ; *i. e.* lying in laminæ, which cannot be altogether separated from the mother-rock.

The *third* of a poorer ore, in which only detached specks and minute grains of *native silver* are visible.

The *fourth*, of the sand and rubble of the mines.

The two first, that is to say, the richer ores, are smelted with the greatest facility, being only mixed with a proportionate quantity of *lead* ; but the two last, whose manipulation constitutes the principal work of the furnaces, requires a longer process, which we shall now describe. The *slig* is mixed with *pyrites*, and smelted ; when the latter enters into combination with the *silver*, forming a *sulphuret* : but the superfluous portion, during this process, becomes *slag*, and is separated. This mixture of *silver* with *pyrites* is called *raasten*. It is then calcined, by which process the volatile part is sublimed. After calcination, the *raasten* is mixed with *skeide ertz*, with a portion of the richest *slig*, and also with a small quantity of *slag* ; and these four ingredients are then smelted together. When in a state of fusion, the whole is suffered to run into a bason, where it is further mixed with *lead*, which combines with the *silver*. Afterwards, the alloy is removed to another furnace ; in which, as the *lead* rises to the surface, it there floats, and is gradually drawn off. Then the *silver* undergoes the last process ; in which, by the degree of heat communicated to the mass, it becomes divested of any small portions, either of *lead* or of *copper*, which may remain.

The

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The business of mining is confined to the same families : no strangers are allowed to work. There is generally employment for the children of the miners, at an early age. They are now, however, increasing rather faster than the employment for them. We saw many children in the streets, and much apparent distress and poverty ; many beggars, both of children and grown persons : but the houses were tolerably neat.

Public Seminary for Mineralogy.

Professor *Esmark*.

There is a Public Seminary at *Kongsberg*, in which Lectures on Mineralogy are delivered by Professor *Esmark*, who is also one of the Assessors, and the most scientific mineralogist, perhaps, in all Europe. This gentleman is well known in all Foreign Academies, for the works which he has published. He has done more towards the overthrow of the wild systems of the *Plutonists* than even *Werner* himself ; and this simply by his own personal observations in his travels ; by opposing the results of actual experience, and matters of fact, to mere visionary and speculative opinions. It was he who discovered *pumice* and *obsidian* regularly stratified in porphyritic rocks ; thereby refuting the notions that were entertained of the origin of such phenomena by means of volcanic fire ; and as satisfactorily accounting for their formation by the humid process, as did the discovery of a cave in *Iceland* with dripping stalactites of *obsidian* pendent from the roof¹. Dr. *Müller* introduced us to this gentleman. His collection of minerals is one of the most *geognostic* we ever

(1) See Blackwood's Edinb. Mag. No. X. p. 379.

ever saw; and it is filled with specimens tending to illustrate the real origin of the substances which have been improperly termed *volcanic*. He exhibited to us masses of *porphyry* containing imbedded layers of *obsidian*; and this, again, containing *pumice*; together with a regular series of transitions, shewing by what changes *obsidian* passes into the state of *pumice*. Considering *trap* as a generic name applied to a great variety of rocks, especially those of *porphyry*, the Professor comprehended under this genus, *schistus*, and all the rocks called *schifver* by the *Germans*, and many of the substances which, owing to their porous aspect, are often considered as lavas; for example, *mandelstein*, or *almond-stone*, of which there are so many varieties in the islands of *Rum* and *Skye*, in the *Hebrides*, containing *zeolotic nuclei*; and all the *basaltic porphyries* of *Drammen*, with which *mandelstein* is found, as it is also in *Hungary* and *Transylvania*. Upon examining the *basaltic porphyry* of *Drammen* with a lens, we perceived that it was full of small spheroidal concretions, like those which appear in the basaltic rocks of *Canna* in the *Hebrides*, and which have been by some travellers ascribed to an igneous operation. Professor *Esmark* conducted us to the grand chamber of the *Kongsberg* Academy, where we saw a collection of minerals, in beautiful order, and most scientifically arranged. The very sight of such a collection affords of itself an edifying lesson for mineralogists; but we were willing to forego some of the advantage which might be derived from its inspection, that we might enjoy the valuable conversation of the Professor. From him we learned, that the School of this Academy is a Royal Institution for the

Collection of
Minerals be-
longing to the
Kongsberg
Academy.

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instruction of the children of the miners, in *mineralogy*, *chemistry*, *physic*, *mathematics*, and other branches of science. There are three Professors, among whom Professor *Esmark* holds the *mineralogical* and *geological* department. Any of the miners, or children of the miners, may attend this institution. Two days in every week, and two hours in each day, are dedicated to the instruction of the miners, and all other persons who choose to attend. FOR THESE LECTURES, NO PAYMENT WHATSOEVER IS REQUIRED. Of the advantages of such an institution, where there are profitable mines, it would be vain to attempt to speak. We felt, at the moment, an inward sense of shame for our own country, in which such studies have hitherto met with so little encouragement. We could but turn our thoughts homeward, and ask, what the Government of GREAT BRITAIN had ever done towards the advancement of *mineralogical* knowledge. At this moment there was not a single Professor of *Mineralogy* in any of our Universities: and it will be long indeed before the eyes of pedants, who bear so much sway in our places of public education, will be open to the importance of establishing Schools of Mineralogy. The very science itself, and all that belongs to it, is to them as a sense which they never enjoyed: whence it follows, that to reason with such persons of its advantages, is like talking of the blessing of light to one who has the misfortune to be born blind¹.

The

(1) These reflections are given as they occur in the author's Journal. They will, he hopes, be read with a reference to the time in which they were written. A very considerable alteration is now beginning to take place with regard to the study of *mineralogy*.

The appearances of squalid poverty which disgrace the streets of *Kongsberg* were before alluded to: this place, like *Christiania*, swarms with beggars; who beset the door of the inn at which travellers arrive, forming together a mob of most disgusting objects; each endeavouring to extort money, as in *France* and *Italy*, and as it used to be in *Ireland*, especially in the streets of *Dublin*², by exposing to view distorted limbs, and deformity, and open sores; thrusting these revolting sights in the very faces of every stranger they meet. We were glad to get away from them; and set out again for *Christiania*; returning by the same road that we came, and sleeping the first night at *Drammen*.

In the church-yard at *Drammen* we observed that almost every grave was covered with a bed of flowers. Dr. *Müller* told us, that, in the summer season, these flower-beds upon the tombs have a very pleasing appearance; and that it is also customary, during the summer months, to scatter flowers upon the tombs. There is every reason to believe that the same customs prevailed among all the ancient families of the *Goths* and *Getæ*, and their descendants; because they are so strictly *Grecian*. Offerings of flowers were among the honours paid to the dead in *Greece*; and we have before noticed a similarity of customs between the antient *Greeks* and the present *Norwegians*, in describing the marriage-

Customs,
shewing the
common origin
of the *Teutons*
and *Greeks*.

mineralogy in *Great Britain*: but it is not too much to say, that the prodigious source of wealth which its due encouragement might open to our nation has not yet been adequately weighed by our Rulers. There is not one school established for the instruction of *miners*, in any of our mining districts.

(2) This nuisance in *Dublin* has been lately put a stop to.

CHAP. II. marriage-ceremonies of the latter¹. So, with regard to this practice of strewing the places of sepulture, we find that it was customary to strew the *Grecian* tombs with herbs and flowers; with amaranths²; with roses³; with myrtle⁴; and most profusely with parsley⁵. Future travellers, pursuing this subject of the common origin of the *Teutons* and *Greeks*, will, in all probability, have to notice other more remarkable points of coincidence.

Superiority of
the Norwegian
Women.

There are many good houses in *Drammen*. The whole valley from *Hogsund* to this place is beautiful, and the soil seems very good. The mountains are covered with firs. We met a great number of fine-looking country girls upon the road; most of them above the ordinary stature, and very handsome. In *Sweden*, we had remarked that the men were much superior to the women; but here we should make the contrary observation, and particularly among the higher classes. At *Christiania* we had met with many elegant-looking women; but scarcely any among the men, excepting the *Ankers*, who, being natives, had the air of gentlemen. The custom of smoking, so universally prevalent, greatly contributes to their slovenly and dirty appearance. As we proceeded in our journey, we observed that most of the houses have little porches, which are generally

(1) See Part III. Sect. I. ch. xvii. p. 643. Lond. 1819.

(2) Philostrate. Heroic. cap. 19. p. 741.

(3) Anacreon. Od. liii. 25. Aristænet. I. Ep. 36. p. 162.

(4) Euripides, Electr. v. 323.

(5) Polyan. Stratag. v. 12. sect. 1. Suidas, in voc. Σελίνον στέφανος.

generally ornamented with boughs of birch or of fir. The country women, when engaged in their labours,—and they work harder than the generality of the men in our country,—wear nothing upwards but their shifts, which however are made higher than in *England*. Sometimes a coloured handkerchief is thrown loosely over their shoulders; but they have no stays, nor any other covering for the waist. The women, in many parts of *Sweden*, work in the same attire, and look exactly like men toiling in their shirts.

Near *Drammen*, that elegant plant, the *Linnæa Borealis*, may be found in great plenty at an earlier season of the year. Its flowers, at this time, were all gone, but we found the remains of its seed-vessels in sufficient abundance to testify its situation here. It flowers in *Norway* in the months of *June* and *July*. Its medical properties are mentioned by *Linnæus*; but according to *Gunner*, whose *Flora Norvegica* was printed at *Trönjhem* in 1766, the inhabitants of that city make use of an infusion of the *Linnæa Borealis* as an antidote in fevers. The same author also speaks of it as affording a remedy in other disorders⁶. The *Norwegians* call it *Norisle*; *Norette*; and *Narisle-grass*.

Medical properties of the *Linnæa Borealis*.

The food of the labourers who work for gentlemen, or large

(6) “Nidrosienses infuso contra febrem scarlatinam, vernacula *Narisle* (*Norisle*, *Norette*, vel *Narild*) non sine salutari effectu utuntur. In *Norvegia* Australiori decoctum in usu est contra scabiem. Externe etiam vel *fotu* vel *fumo* febrem scarlatinam tollunt, Svecis foliorum infusum cum lacte specificum est in doloribus ischiadicis et rheumaticis, et *fotu* dolores pedum in ovibus tollunt.” *Flora Norvegica Gunneri*, lxxvii. p. 37. *Nidrosiæ*, 1766.

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Condition of
the Peasants.

large farmers, in this country, consists of black rye-bread and salted butter or cheese, for breakfast; and boiled barley and a herring, or some other fish, with beer, for dinner. Once in a week, and sometimes twice, they have fresh meat. The common people in general live nearly in the same way, only not quite so well. Instead of beer, they have sour milk. Some, who have large families, are often in great distress. The men who work for gentlemen, or farmers, have generally a house found for them, rent free; for which they are always obliged to work for the master from whom they receive it, in preference to any other. These receive ten-pence a day in summer, and eight-pence in winter; and, in harvest, a shilling, or fourteen-pence. Those who have no houses, are paid a shilling in summer, and ten-pence in winter. The state of the labouring poor is improving in *Norway*: they are not so dirty as they used to be; and, consequently, there are not so many children who die young.

There is not a pound of fresh butter to be bought in *Christiania*. All persons use what they make themselves, or they salt it for keeping. The farmers who live higher up the country, go for two months, from *June* to *August*, up the mountains, to pasture their cattle. They then live in little temporary wooden sheds; and it is during these two months that they make the greatest part of their butter, which is salted, and brought to the fair at *Christiania*, in the winter, upon sledges. This butter is bought by the families in the neighbourhood, for the use of their servants; but the better sort of people eat the butter imported from *Holstein*.

So

So little has the custom of selling fresh butter prevailed, that if a person wished to dispose of any, he would hardly find purchasers. The cattle, during winter, besides hay and straw, where these may be had, are chiefly foddered with the leaves and small branches of a species of poplar, gathered at the end of the summer, and stored for winter provision. We were assured by persons who had most attended to the keeping of cattle, that these leaves, stripped from the branches, are excellent food for horses, and that this kind of fodder gives them a very fine coat. By all that we could hear or see, the lower orders appeared to live as well as those in *England*; with this difference, that they eat rye-bread instead of wheaten-bread: but they are so accustomed to rye-bread, that they prefer it to that which is made of wheat, and reckon it a heartier food. Wheat is sometimes cheaper than rye. A flat cake, much in use, which is made of rye, and sometimes of oatmeal, is called *flad brü*. In the neighbourhood of *Christiania* the *house-men* have seldom land to keep a cow. Among the higher orders, the business of housekeeping, from its peculiar nature, and the largeness of the establishments, takes up so much time, that the mistresses of families, after their marriage, have no leisure to attend to any thing else. The number of servants in these families is always great; and those servants are, for the most part, an idle set, never liking to do any thing out of their peculiar department; which is, in fact, the principal reason why so many more servants are required than would be wanted in *England* for the same work.

In our return to *Christiania*, we visited the *Alum Works*, Alum Works.
which

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Synthesis
which takes
place in the
production of
Alum.

which are near the town; and their inspection only served to convince us of what we had often suspected, from the sight of alum-works in our own country; namely, that *alum* is the result of a synthesis which takes place during the decomposition of the substance considered as its *ore*: that is to say, that *alum* does not exist ready formed in the *schistus* and other mineral aggregates from which it is supposed to be obtained; but that these rocks being exposed to decomposition by the action of extraneous bodies, a new chemical combination takes place, which is exhibited in the salt called *alum*. As the subject is really curious, its illustration, as applied to a description of these *alum-works*, will not be irrelevant. They belong to Mr. *John Collet*, whose hospitality we had lately occasion to notice. The sort of *slate* called the *ore* is a dark *schistus*, distinguished from *clay-slate* by its streak always remaining unaltered in its colours. In its exfoliations, it separates with polished surfaces, having a higher degree of natural lustre. Its dark colour is entirely owing to the *bitumen* which it contains; but it also contains embedded nuclei of *iron-pyrites*. The workmen affirm, that the ore is richest when these nuclei are most abundant; and the reason why this *pyritous slate* is fitter for making *alum*, we shall presently shew. If a piece of this *slate* be submitted to analysis, when taken from its native bed, it will not be found to contain *alum*: hence it is evident, that the *alum* is, as to its formation, the result of a subsequent process,

(1) See Jameson's Mineralogy, Vol. I. p. 433. *Edin.* 1816.

process, which takes place in the following manner; something of a similar nature being applicable to all other works carried on for the same purpose of extracting *alum*. The ore containing the elementary constituents of *alum*, when it has been taken from the alum-rocks where it occurs in veins, is disposed in heaps: here, being acted upon by air and moisture, a spontaneous decomposition begins, which is from time to time aided and accelerated by water, and also by urine cast upon the heaps. The *iron-sulphuret*, thus acted upon by moisture, also undergoes decomposition. As this decomposition commences, the *pyrites* becomes heated: the sulphur which it contains becomes *sulphuric acid*; and this acid entering into chemical union with the *alumina* of the decomposing slate, and the *alkali* of the urine, an *alkaline sulphate of alumina* is the result, which is, in fact, the *alum*. This salt then begins to appear, in white delicate fibres, between the exfoliating laminae of the slate. For its separation, and also to further the progress of decomposition requisite in effecting this synthesis, other operations are necessary: and wherever *alum-works* have been established, the process is nearly the same;—that is to say, the ore is calcined; and the particles of *alumina*, being reduced to a state of greater division, are the more readily acted upon by the acid. It is then lixiviated, or soaked, for a certain time: after this, the liquor, being separated, is boiled in leaden caldrons, and suffered to evaporate: the concentrated solution containing the salt being then collected into pans, deposits the *alum*, as it cools, in large and beautiful octahedral crystals, or two tetrahedral

CHAP. II.

crystals applied base to base. Commonly, however, only one tetrahedral pyramid appears as the crystalline form; the pyramids being constantly turned downwards towards the bottom of the vessel, especially those which fix themselves to the rods which are put into the liquor to multiply the surfaces. Sometimes the angles of the crystals are truncated; and these truncations take place most frequently when the *lixivium* is slightly acid. We had never seen such fine crystals of *alum* as those which we brought from this manufactory. To obtain a good crystallization, some precaution is necessary in attending to the degree of heat applied for the concentration of the *lixivium*. If the liquor be urged by a violent degree of heat, it loses part of its acid, becomes tasteless, and the residue is then no longer susceptible of crystallization; but the *alum* is precipitated, in the form of a very fine adhesive powder, in proportion as the water is dispersed by evaporation. To ascertain this temperature, methods of greater or less accuracy have been adopted; such as the immersion of an egg into the liquid; the affusion of some drops of the *lixivium* upon a plate; and some other¹. We brought away many specimens, both of the *ore* and of the *alum*. The balls of *iron-pyrites* contained in the slate have a spheroidal form; and, in some instances, these balls are as big as a man's head.

Return to
Christiania.

After our return to *Christiania*, the same round of hospitable entertainments again took place which we have before noticed.

(1) See Chaptal's Chemistry, Vol. II. p. 64. Lond. 1775.

noticed. We were not a single day in the place without receiving invitations, either to some magnificent dinner or supper. There are public balls on a Sunday evening, once in every fortnight. These are held in a large room belonging to the principal inn; and the ball is followed by a supper. Tickets are given to the different persons as they enter, to regulate their places in the dance; a different set of tickets being distributed for a similar purpose at supper. The dances are, the waltz, which has always the preference, and the common *English* country-dance: but even in the country-dance the waltz is introduced: indeed it is so great a favourite, that our *English* dance would probably not be tolerated, but in compliment to the *English* who may happen to be present. Some of our popular dances were performed by the band, but in so slow and solemn a manner that the effect became truly ludicrous. The dresses of the women are entirely *English*, and of the latest *ton*. At this time, the Governor's lady, and one or two more, made their appearance in curled crop perukes, imported from *London*; and by the buzz, which the display of the new fashion excited, the admiration and the envy it called forth, it was evident that a fresh importation would soon be the means of making these wigs a very general costume among the higher class of females. Any alteration that takes place in *London*, with regard to dress, is instantly transmitted to *Christiania*: and these changes are watched and adopted in *Norway* with a degree of avidity which is quite amusing to foreigners. Nothing would be easier than to practise

Rage for
English
Fashions.

CHAP. II. practise the most extravagant hoax, by making it to be believed that some strange grotesque mode of attire had been introduced among the fashionable belles of *London*. If a lady arrive from *England*, she has hardly set foot in *Christiania* before her toilette is beset by all the principal women, anxious to inspect and to imitate every article of her apparel.

Further Account of *Bernard Anker*.

Literary female characters are unknown: even the men rarely pretend to follow any scientific pursuit. The most learned of the inhabitants are foreigners. *Bernard Anker* was almost the only man who, as a native, engaged in and patronized literature. He was familiarly acquainted with the best *English* authors in almost every department of science, and not ill versed in the writings of other nations. He had, at the same time, some degree of knowledge of the antient classic authors. He was, indeed, in all respects, a very extraordinary man. Some travellers have spoken of his vanity: to us, this foible, if it deserved so harsh a name, served only to render his company the more amusing: not that we were amused at his expense, but because we discerned, through all his supposed egotism, a playfulness of disposition, which seemed to say, "I will be any thing, from the loftiest statesman to the merriest member of a party at blind-man's buff, sooner than my guests shall suffer ennui for want of conversation or amusement!"—and we felt convinced, that the loss of such a man, in such a place as *Christiania*, could never be supplied.—Alas! before our tribute can be paid to his distinguished worth, and these
acknow-

acknowledgments of the kindness we received from him publicly rendered, this loss has been sustained!—Of the extent of his commercial speculations it is hardly possible to convey an idea, without making a complete statistical survey of the commerce of *Norway*. His ships went to sea in whole fleets; and of the wealth of their freightage some notion may be entertained, by an account of his dealing in a single export; namely, timber. He took us to see his deal-yards, which were indeed prodigious. The present stock in them was worth 50,000*l*. From *Christiania* and *Moss* he exported deals to the amount, annually, of 180,000*l*.; and of this sum, above 100,000*l*. must be placed to the amount of the deals from *Christiania*. The deals that are sold in one year are cut three years before; and, as every thing is paid for in ready money, an immense capital is required to carry on this trade in deals alone; which is, in fact, the reason that it is so profitable, and in such few hands. At *Frederickstadt*, from the facility of floating the timber to the saw-mills, and from the saw-mills immediately to the port, a whole year is saved, and the clear profit is thereby made much greater. The timber that comes to *Christiania* is brought by sledges, in winter. The carrying timber on sledges forms one of the principal winter employments of the farmers and house-men. By this it will be seen what the out-goings must have been of a merchant, engaged as Mr. *Anker* was, in commerce. But, besides this, he had extensive iron-foundries, and three copper-mines. The number of his stewards, or clerks, amounted to forty; each of whom, upon an average, enjoyed a yearly

Timber Trade.

CHAP. II.

State of
Religion in
Norway.

a yearly salary of a thousand dollars. Yet, in the midst of his vast undertakings, he was so much of a philosopher, that if he could have found any other individual capable of superintending the whole, he would have consented to a loss of 50 per cent., that he might have been able to retire.

Of the state of religion in *Norway* we had not an opportunity of making many observations. The morals of the people, especially of the lower orders, are good; and thus judging of the tree by its fruits, we saw no reason for complaint. Formerly there were many different sects in the country; and among these, some like our Methodists: but at present, all are united. There is nothing, therefore, of that sourness which is caused by dissent; and which, as it tends to separate the members of society from each other, tends also to sap the very foundations of Christianity;—thereby proving the truth of an observation of *Montesquieu*, that “the most true and holy doctrines may be attended with the very worst consequences, where they are not connected with the principles of society.” One of the most essential objects of religion, when a State has many causes for hatred, is to produce many ways of reconciliation. Perhaps we ought to assign as a reason for the religious unanimity of *Norway*, that the same degree of ardour in religious matters which is found in our own country, and which in *Great Britain* has of itself given birth to the schisms that divide the members of its

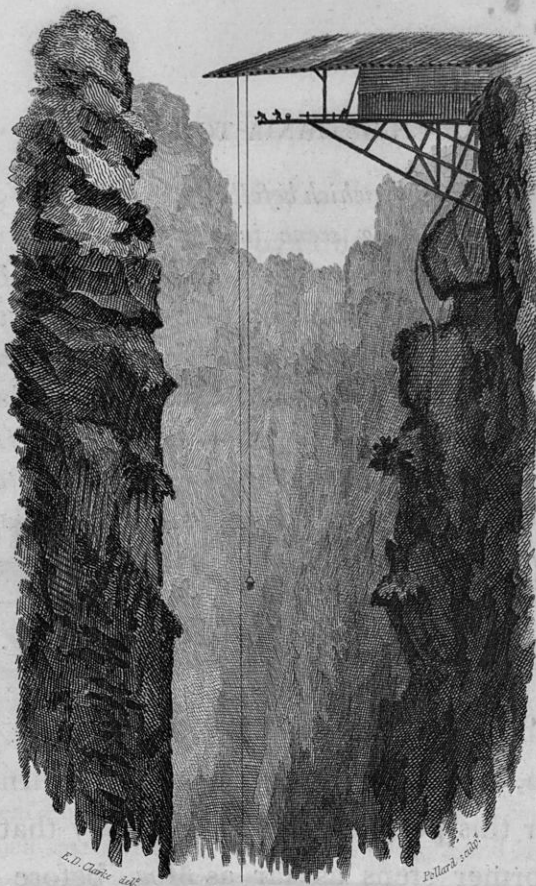
(1) *Esprit des Lois*, liv. xxiv. ch. 19. p. 161.

its Christian community, has not yet been excited here. CHAP. II.
A great deal of what may be called *indifferentism* prevails on religious subjects among the *Norwegians*.

Upon the 28th of *October*, after taking leave of many of the inhabitants, Mr. *B. Anker* accompanied us in a boat round the Bay. We visited the fortress, and saw the slaves at work. This fortress is almost impregnable by land. Fortress of
Christiania. We were much delighted with the view of the river and the country from the ramparts. The water is so land-locked, that its appearance is that of a fine extensive lake, ornamented with islands, and surrounded by blue mountains in very pleasing shapes: but as far as we could judge of their elevation by the view of them, they have not the height of the mountains which surround the lakes of *Westmoreland* and *Cumberland*. The fortress seems to be strong; and there are some fine brass cannon upon the ramparts. The garrison consisted of twelve hundred men, including some chasseurs; and there were, besides, four companies of artillery. Afterwards, having dined privately with Mr. *Anker*, we retired with him to another apartment, where an elegant dessert had been set forth in the *English* way, with decanters of wine and glasses. We conversed with our intelligent host respecting the mines we had so lately visited; and he presented to us a specimen of *native gold*, found at a mine belonging to himself at *Nummedalen*, near *Kongsberg*. In the evening, to gratify our curiosity, he put on his magnificent winter-dress, consisting of a pelisse, collar, and boots, of the choicest black furs. The pelisse was made entirely of the skins of sables, and the collar and boots of bear's skin. We had examined
the

CHAP. II.

the fur-shops, in the hope of finding the skins of the *Cat-Gaub*, or *Norwegian Lynx*; but the animal, although sometimes taken, is certainly very rare in the country; and it is fortunate for the inhabitants that its visits are not more frequent. We spent the last evening of our stay in *Christiania* with this benevolent man; and having supped with him in the presence of his family, bade them farewell.



CHAP. III.

FROM CHRISTIANIA IN NORWAY, TO FAHLUN IN SWEDEN.

The author again sets out for SWEDEN—Execrable state of the Roads before the snow falls—Holen—Change in the Roads in approaching Sweden—Spires of Norwegian Churches—Kiölstad—Hæberg—Cataract of Fon Fossen—Ous—Sindby—Appearance made by a Fair at Kongswinger—Money of the Country—Edsbroen—Magnor—Boundary between NORWAY and SWEDEN—Singular instance of honesty in a Peasant—Morast—Haga—Strand—Homeric Torches—Extraordinary Costume of the Natives of WERMELAND—Aspect of the Country—Consequences of a recent Dearth—Hogsalla—Leerhol—Skamnäs—Improved appearance of the land—CARLSTAD—Exports and Imports—Population—River Clara—Brästegård—Molkem—Change in the dress of the Peasants—Manner of keeping the Roads in repair—Brättefors—Boulders—Trees—Animals—Philipstad—Uniform appearance of the Swedish Towns—Dress of the Natives—Enclosures—Juniper-trees—Onshytta—Two species of Tetrao or Black-cock—Persberg—Descent into the

Iron-Mines—Catastrophe which befell a Female Miner—Bottom of the Persberg Mine—Striking scene in the Great Cavern—Imbedded state of the Ore—Långbanshytta—Machinery for the Mine Pumps—Saxån—WESTMANIA—Hällefors—Nytorp—Nyakopparberg—Minerals—Laxbro—Beauty of the Lakes—diminution of their waters—Hogfors—Hellsion—Ostanbo—Smedbacka—Blood Cakes—Entrance of DALECARLIA—Varieties and Luxuriance of the Fungi and Musci—Bommarsbo—Home Manufacture of Candles—Russ-Gården—Naglarby—General Features of DALECARLIA—Character of the Natives—Dialect—Antient Dance—Original use of the Runic Staves—Retreat of Gustavus Vasa—Approach to Fahlun—External Aspect of its famous Copper-Mine.

CHAP. III.

The author
again sets out
for Sweden.

Execrable
state of the
Roads before
the snow falls.

IN the morning of the 29th of October, we left *Christiania* in our phaeton, and once more began our journey towards SWEDEN. For this purpose, it was necessary that we should retrace our former steps as far as *Moe*, before we took a different route; but the roads were so execrable, that we were actually employed the whole day in getting to this place, although distant only three *Danish* miles and a half from *Christiania*. We passed through a beautiful valley between *Romsaas* and *Schesmoe*, as before. The inns were bad; and this being added to the wretched state of the roads, and the little progress we were able to effect, made us think that we had acted perhaps unwisely in not waiting for the winter season, which is the best time for travelling in *Scandinavia*, especially when the country is not likely to offer any thing in its scenery remarkable either for its grandeur or picturesque beauty. When the snow has once fallen, and the sledge-way is open, a traveller, wrapped up in his furs, may prosecute his journey in the open air, not only with the utmost expedition,

expedition, but with comfort. But we intended to visit mines; and, in our search for minerals and plants, wished to see as much as possible of the uncovered earth before the woodlands of *Norway* and *Sweden*, their hills and their valleys, rocks, mountains, lakes, and rivers, were all shrouded in one vast sheet of ice and snow.

The next morning, Oct. 30, after a stormy night, dawned most merrily; the sun burst forth in splendour;—even the feathered songsters, in this autumnal day, were still heard upon the dripping branches:—

“ And forth they passe, with pleasure forward led,
 Joying to heare the birds’ sweet harmony,
 Which, whilom shrouded from the tempests dred,
 Seem’d in their song to scorne the cruell sky.
 Much can they praise the trees so straight and hie,
 The sayling *pine*, the *cedar* proud and tall,
 The vine-prop *elme*, the *poplar* never dry,
 The builder *oake*, sole king of forrests all,
 The *aspine* good for staues, the *cypresse* funerall.

“ The *laurell*, meed of mightie Conquerors
 And Poets sage, the *firre* that weepeth still,
 The *willow*, worne of forlorne paramours,
 The *eugh*, obedient to the benders will,
 The *birch* for shaftes, the *sallow* for the mill,
 The *myrrhe* sweet, bleeding in the bitter wound,
 The warlike *beech*, the *ash* for nothing ill,
 The fruitful *olive*, and the *platane* round,
 The carver *holme*, the *maple* sildom inward sound.”

In our first stage, this day, to a place called *Holen*, we turned out of the *Trönjém* road, about half a mile from *Moe*, into another, upon our right, leading towards the frontier of

SWEDEN:

CHAP. III.

Change in the
Roads in ap-
proaching
Sweden.

SWEDEN: and we could but remark, at the time,—as if any-thing which had a reference to that country should in some degree manifest a *Swedish* aspect,—that, from the moment this deviation occurred in our route, the roads began to improve; becoming better and better afterwards, as we drew nearer to the *Swedish* barrier. The country here is pretty well cultivated: although undulant, when compared with the rest of *Norway* it is of a level nature. The road lay partly through forests. In viewing the churches of this country, if we might judge from mere similarity of form and structure, it would seem that all our spires, commonly called *Gothic*, with the fashion and shape of their wooden shingles, were borrowed from *Norway*. In every part of this country through which we have passed, they reminded us of *England*.

Spires of
Norwegian
Churches.

Kiölstad.

From *Holen* to *Kiölstad*, one *Danish* mile and a half, we journeyed over plains with good roads. The *oats* and *pease* were still standing. We observed near *Holen* several heaps, which we thought were antient *tumuli*; but could obtain no information, either from the tradition of the inhabitants, or from the history of the country, to confirm us in this belief. Before we reached *Kiölstad*, the prospect of an extensive rich level, highly cultivated, reminded us of parts of *Surrey*. From *Kiölstad*, where there is a good inn, we proceeded to *Hæberg*, through a level country, having crossed a ferry. Near *Hæberg* there is a Cataract, which we had every reason to believe would be well worth seeing: but the storm came on again; the rain fell in torrents; and the mud was so deep, that we did not attempt to gratify our curiosity. The people

Hæberg.

Cataract of
Fon Fossen.

at

at *Hæberg* told us that it was about an *English* mile distant, and yet we heard distinctly the noise of its falling waters. This cataract is called *Fon Fossen*. They said that passengers seldom went to see it; which is probable enough in a country where the grandest cataracts are things of common occurrence: but it is to be hoped that some future traveller, under more favourable circumstances, will not leave this water-fall unheeded. In going from *Hæberg* to *Ous*, we found the soil sandy. The inn at *Ous* was excellent, and the accommodations not inferior to those of *Christiania*; which is saying a great deal. We seemed to have escaped from the mud the moment we quitted *Hæberg*; for the road afterwards was very good. Here we observed some hardy urchins, with naked legs, amusing themselves by playing in a bog, totally regardless of being wet or cold. The distance from *Ous* to *Sindby* is only one *Danish* mile: we ran it in forty minutes. Near *Sindby* is a mountain containing iron ore, and also a foundry. The road was crowded with peasants, going to the fair at *Kongswinger*. There was a fortress situate upon an eminence above *Kongswinger*, which commanded the village, the road, and the river. We were much entertained at this place by the sight of the fair. A public fair, by collecting the inhabitants of the neighbourhood, and exhibiting them in the height of their gaiety and costume, cannot fail of being interesting to the curious traveller: it also serves to display the produce and commodities of the country. We bought here ptarmigans and moor-game, besides white bread and gingerbread. The dress of the men was singular, from its uniformity: they wore coats of white cloth,

*Ous.**Sindby.*

Appearance
made by a
Fair at
Kongswinger.

CHAP. III. cloth, faced with red, and red cuffs; and red caps upon their heads. Many of the men were already more than "half seas over," though it was an early hour of the morning. There were many horses for sale, rode by rough-riders. For the rest, the appearance was pretty much that of an *English* fair;—soldiers enlisting for recruits, and alluring the boors by a display of their martial accoutrements; drunken loobies; pretty village lasses; clamorous hawkers; and vagrant *Italians*, with cheap looking-glasses, and coloured prints.

Money of the
Country.

Payments are made in *dollars*, *schillings*, and *stivers*; but in *Sweden* and *Norway* the value of *schillings* and *stivers* is very different. In *Norway*, a *schilling* is the lowest coin, and answers to our halfpenny; and *stivers* are a penny each. In *Sweden*, *schillings* answer to our pence, and *stivers* to our farthings. All small sums are reckoned in *stivers*; and instead of saying, for example, 'four *schillings*,' they would say 'sixteen *stivers*.' A *dollar*, silver mint, equals eight-pence; and there are six in a *rix-dollar* note. The general price of *barley* and *rye*, in this country, is from four and a half to five dollars the ton. *Barley* was now selling so high as nine dollars, and *rye* at ten dollars, per ton; owing to the dearth which had happened, and the effects of which were still felt. The price of labour was twelve *schillings* a day, without victuals.

After we left *Kongswinger*, the aspect of the country was more like the grand and striking scenes of the *north of Norway*; presenting a landscape perfectly picturesque, when viewed as a whole; yet consisting of an amazing variety of parts, all of which, when examined in detail, were magnificent. There never was but one painter of sufficient capability,

capability, as the historian of Nature, for the representation of things so varied and vast in their combination;—and this painter was *Claude*. But for the country here we would rather have called in the aid of *Gaspar Poussin* than of *Claude Lorrain*. It had more of the majesty and sudden transitions which mark the favourite subjects of *Gaspar's* pencil, than of the long-drawn valleys, the never-ending richness and sweetness, of *Claude*.

At *Edsbroen*, a single house, almost as wretched as the shed at *Malmagen* where we passed the night upon coming from *Sweden* into *Norway*: we were however induced to halt for dinner, upon finding in the Post-book, in the hand-writing of our friend Professor *Malthus*, the words “good treatment.” He had passed this way with Mr. *Otter*. The good woman of the house was moreover tidy in her appearance, and brought forth some excellent butter. To this we added our bread and cheese, and so made a hearty meal. From hence we had good roads to *Magnor*, a strange-looking place, consisting of a parcel of wooden-houses, huddled together under a mountain. We found nobody at home: all the inhabitants were gone to *Kongswinger* fair. We therefore proceeded farther; and came to an inhabited dwelling, where we found an old woman in bed, who from the age of nine to sixty-nine had been always bed-ridden. Our host was her nephew, and had himself seven children; but for many years, with a degree of tenderness amounting to a filial affection, he had attended upon and solaced the infirmities of this poor afflicted invalid. In the next stage, between *Magnor* and *Morast*, we passed from *Norway* into *Sweden*, at the distance

*Edsbroen.**Magnor.*Boundary between *Norway* and *Sweden*.

of

CHAP. III.

Singular
instance of
honesty in a
Peasant.

of half a *Danish* mile from *Magnor*. An avenue cut through the forest marks the boundary between the two countries. Just before passing this boundary, hearing somebody calling behind us, we halted. It was the identical peasant at whose dwelling we had stopped, and whose charitable conduct we have noticed. He had galloped after us with a pocket-book, containing a considerable sum of money, which we had left upon his table; having taken it out to bestow something upon his poor family. A very little more speed on our part, or less of diligence on his, and we should have been out of his reach: and if this had been the case, few readers would regret that such singular honesty, in the midst of such poverty and goodness, had met with a larger reward than we could then afford to bestow. It was not the first symptom which we have had to notice of our approximation to that land of honesty, SWEDEN: and whether the individual we have alluded to were a *Norwegian* or a *Swede*, we are well assured, that, beyond the limits of these two countries, similar instances of regard for the distinctions between 'mine' and 'thine' will not be always so scrupulously regarded. At the place where the avenue has been cut, a stone is erected, which exhibits on one side of it the arms of *Denmark*'; and on the other, those of *Sweden*: and about a quarter of a *Swedish* mile farther on, before reaching the end of this stage, there is the Gate and Custom-house on entering the *Swedish* territory.

Morast.

Finding no accommodation at *Morast*, the next relay, we proceeded, chiefly amidst woods of red fir, with a few openings of cultivation, through *Haga*, to *Strand*; where we arrived

Haga.
Strand.

arrived at midnight; being guided in the woods by peasants on foot carrying flambeaus made of deal splinters. The inn at *Strand* was bad indeed; but the truth is, that between *Magnor* and *Carlstad* there is no place of rest for travellers which can be called by the name of an inn: they are wretched hovels, tenanted by the poorest peasants. At *Strand*, a whole crop of cabbages was hanging from the roof, to dry.

CHAP. III.

Homeric
Torches.

Upon the first of *November*, we left *Strand*, and set out for *Prestbol*. The dress of the natives exhibited a curious change as we entered the province of *Wermeland*. The peasants were all in black, as if for a general mourning; and this costume, added to their poverty and the sterile aspect of their country, had a melancholy appearance. We hardly entered a house without seeing some lamentable object, either sick or deformed. The soil itself is of a nature to bid defiance to cultivation: it consists of loose masses of stone, which can neither be removed, nor rendered in any way productive. It seemed to be the very region of poverty and despair, denuded and smitten by the hand of Heaven. In perusing the manuscript journal of a friend who had travelled the same route only three months before, we found similar observations made as to the melancholy aspect of all this district, and to the impressions made upon his mind upon seeing all the inhabitants dressed in black clothes. When we entered *Sweden* from *Denmark*, we were struck with the superior liveliness of the *Swedes*; but in entering it now from *Norway*, we received a very different impression. To add to the general wretchedness of the country, a greater

Extraordinary
Costume of
the Natives of
Wermeland.Aspect of the
Country.Consequences
of a recent
Dearth.

CHAP. III.

dearth had prevailed, during the former winter, than the oldest person ever remembered. *Oats* were six dollars a ton, which commonly sell for two or three. *Barley* and *rye* were scarcely to be had at any price. The people had saved themselves from starving, by eating the bark bread, and a bread which they said they made of a kind of grass: this grass we afterwards found to be sorrel¹. The fir-bread had given to many of the inhabitants an unhealthy appearance: they found the sorrel-bread, upon the whole, more salutary. The general effect of eating fir-bread is, to produce a yellow, pale, and unhealthy countenance. In every thing, the appearance of the people was strangely contrasted with that of the *Norwegians*. The latter wear red caps. The *Swedes*, in their broad-brimmed hats, without any buttons upon their black coats, looked like so many Quakers in mourning.

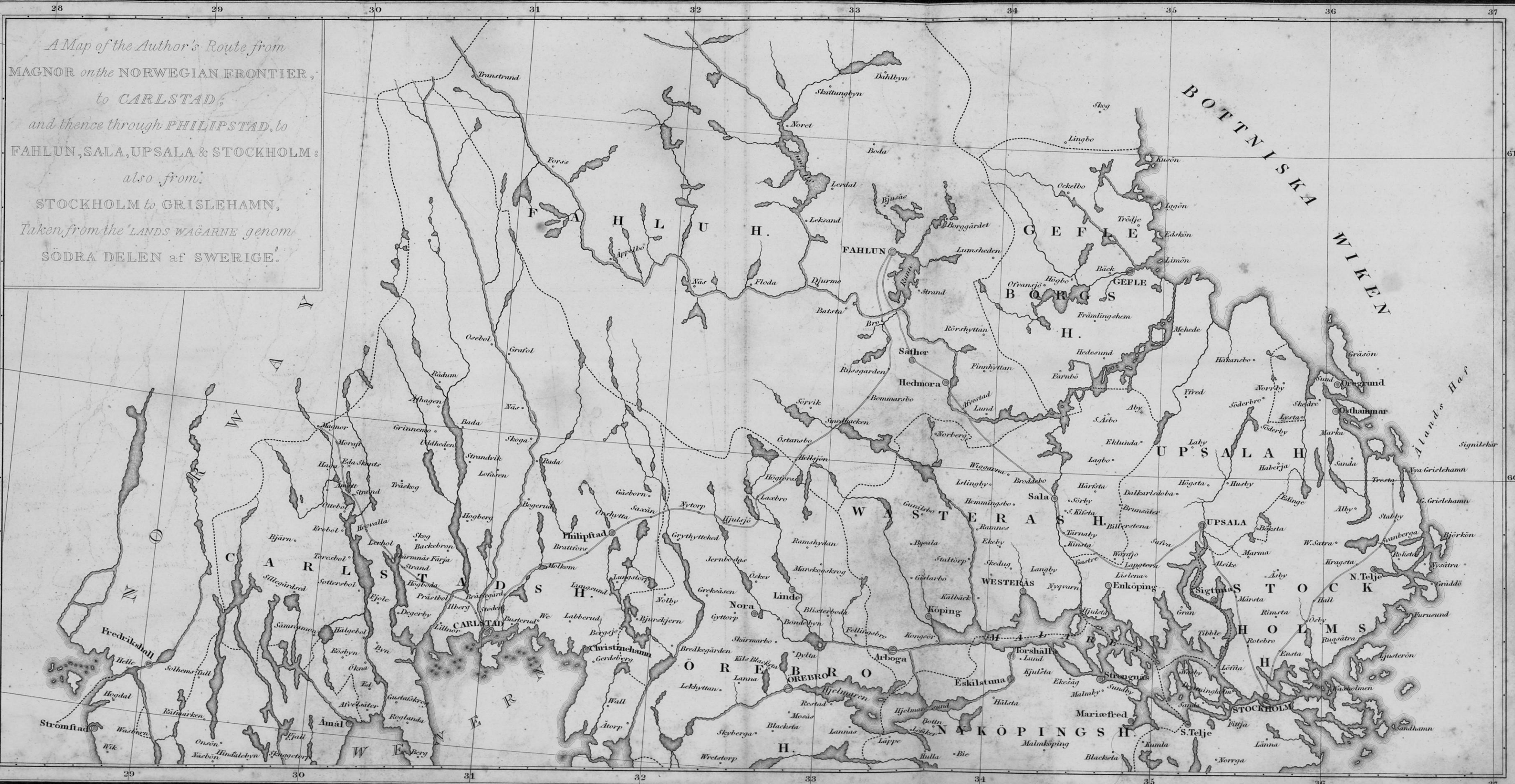
Presently after leaving *Strand*, we had a fine view of a lake which discharges its waters into the *Wener*. We passed *Hogvalla*, *Leerhol*, and *Skamnäs*. In the forests were juniper-trees, growing to a very great size. We were ferried over to *Skamnäs*; the passage being nearly half a mile wide. The view of the lake from the post-house here was very fine. The country was more open and cultivated in going to *Hogboda* and *Prestbol*; interspersed with small lakes, the shores of which were ornamented with *fir*, *birch*, and *alder*. Two sorts of *alder* are very common in *Sweden*, as well as in *Norway*;

Hogvalla.
Leerhol.

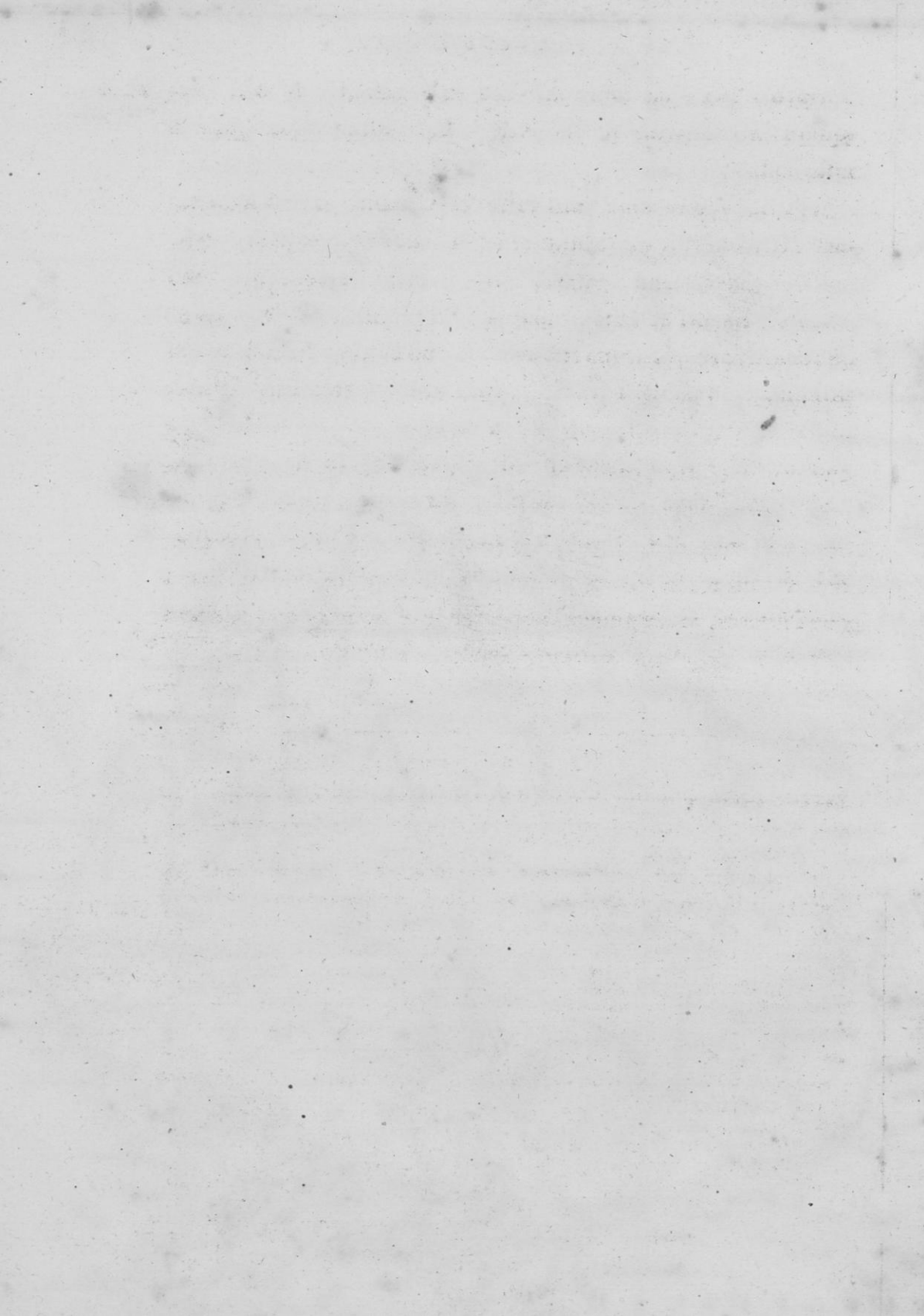
Skamnäs.

Improved ap-
pearance of
the land.

(1) *Rumex acetosa*.



A Map of the Author's Route from
MAGNOR on the NORWEGIAN FRONTIER,
to CARLSTAD;
and thence through PHILIPSTAD, to
FAHLUN, SALA, UPSALA & STOCKHOLM:
also from
STOCKHOLM to GRISLEHAMN,
Taken from the 'LANDS WÄGARNE' genom
SÖDRA DELEN af SWERIGE.



Norway; growing often in very dry ground. It was dark before we arrived at *Prestbol*. We found here another miserable inn.

The next morning, *November the second*, we descended into plains which reminded us of *Norfolk* and *Suffolk*. The appearance of the country was greatly improved. We changed horses at *Ilberg*; and reached *CARLSTAD*, the capital of *Wermeland*, upon the *Wener Sea*¹, by eleven o'clock in the forenoon. The view in the approach to this city is very pleasing. We entered it by a bridge². The houses are covered with turf, as in all the towns leading from *Wenersborg* to *Stockholm*, on the southern side of the lake. The inn here was very dirty; yet *Carlstad* is a much finer town than *Wenersborg*: the streets are broad and long, and contain many good houses, and a general appearance of activity and business seems to denote a thriving place. The Episcopal Palace is

(1) See the Map, p. 126 of the last Volume. *Lond.* 1819. "Equitum lustrationibus nundinisque festo D. Pauli et Lucie celebris, quæ etiamnum a Gothenburgensibus aliisque vicinis magno cum emolumento frequentantur." *Descriptio Sueciæ*, tom. I. p. 442. *Lugd. Bat.* 1706.

(2) It is, in fact, built upon an island. (*See the Map*.) "The river *Clara*," says *Thomson*, in his account of this place, "runs through this province, and falls into the lake *Vener*. It is a large river, but, like the *Dal*, runs so slowly, that it has more the appearance of a lake than a river. Some miles before it falls into the *Vener*, it divides into two branches, enclosing the Island of *Tingwalla*. At the northern extremity of this island stands the town of *Carlstad*; so called because it was built by *Charles IX*. This town is a Bishop's See. Like the other *Swedish* towns, it is built of wood. The streets are broad and straight, and the number of inhabitants about 1500. It carries on a commerce of wood and iron across the lake *Vener*." *Thomson's Trav. in Sweden*, ch. xx. p. 373. *Lond.* 1813.

CHAP. III.

Exports and Imports.

Population.

River Clara.

is built of wood, as are all the other houses. The Governor of the province also resides here. Both *Carlstad* and *Philipstad* were built by *Charles the Ninth*; the first being called after his own name, and the last after the name of his son *Philip*. The principal productions of the mines and forests of *Wermland* are here shipped for *Gothenburg*; and the exportation of bar-iron and timber may be considered as the staple commerce of *Carlstad*. The importations consist of provisions and other necessities. Dirty inns are often the dearest: and this we found to be the case here. Every thing was charged at most exorbitant prices: but this is not a cheap place for any thing beyond common necessities. Loaf-sugar sold in the shops as high as a rix-dollar the pound, being all of it imported from *England*¹. The accounts given to us of the population of *Carlstad* were so discordant, that we could place no reliance upon them; some estimating it at 3000, and others at 1400: we were disposed to credit the last, rather than the first; and this number nearly coincides with the statement already cited in a note. There is a square here, as at *Wenersborg*, surrounded by wooden houses, with a very neat appearance.

We left *Carlstad*, on Sunday, *November the third*, passing the north-eastern branch of the *Clara*, by some called the *Carls Elf*,

(1) See p. 186 of the last Volume, Quarto Edition, for an account of a manufactory for refining sugar at *Gefle*, belonging to Mr. *Hennis*; being the first of the kind established in *Sweden*.

Elf^s, by a large stone bridge with iron rails, erected in a light and elegant style of architecture. It was a very foggy morning, which prevented our having some fine views of the Lake *Wener*. The Governor had sent for us, demanding a sight of our passport: we therefore called at his house, as we were leaving this wooden city. The road leading to *Brästegård* lies, for the most part, by the side of lakes, which discharge their waters into the *Wener*, by means of a small river. From *Brästegård* we came to *Molkem*; near which place there is a large lake, the village being prettily situate at the end of it. The church service had just ended; and a vast throng of the peasants filled the post-house, impatient to get their drams, according to custom, as a morning-whet after prayers. We saw no symptoms of intoxication: but this is the *Swedish* custom. Many of them came from a great distance; and a little brandy, as one of them jocularly told us, helped to digest the sermon, and to sharpen their appetites for dinner. The road was crowded with little carts, each drawn by one horse, conveying the different families to their several homes; and with the youth of both sexes, who were pacing on foot, by the side of their parents. Here a change was again visible in the costume. In the north of *Wermeland*, as we have described it, the dress of the peasants was uniformly black. It was also very uniform here:

Brästegård
Molkem.

Change in the
dress of the
Peasants.

(2) "Urbs hic unica *Carolostadium*, à Rege Carolo IX. denominata, occupat insulam, ab ingenti flumine *Carls Elff*, ubi lacui *Wener* miscetur, factam, in quo ipso *Wermiæ* meditullio sitam." *Amœnit. Regn. Suec.* tom. I. p. 442. *L. Bat.* 1706.

CHAP. III.

here: but the colours were grey or blue; all blue, or all grey, as the parties were from different districts. From *Molkem* to *Brättefors*, the distance is fourteen *English*, or two *Swedish* miles; the roads being of that incomparable nature which we have so often described in *Sweden*; but to which frequent allusion may be made, that the Reader may bear in his mind the actual state of the country, and the industry of its inhabitants. Incessant rain had fallen for some time before, without effecting the smallest change in the excellent condition of these roads. The material for making them is always the same; a fine gravel, covering the broad and flat way. We did not consider the perfect state of the *Swedish* highways as owing so much to the material used, as to the manner adopted in making them. There is nothing of promiscuous work carried on, by way of keeping them in order; nor any thing like a proposal set on foot for mending them by contract; enabling adventurers to enrich themselves, by jobbing, at the public expense. Each peasant has a portion of the road assigned, by measure, to his peculiar care: and these portions are marked out by little boards, bearing the names of the peasants to whose management they have been entrusted: by which means emulation is excited among them; every peasant being stimulated, by a degree of pride, to surpass, if possible, in his allotment, the work of his neighbour. We have known them, when they have attended us with their horses, point with exultation to the condition of that part of the road which has been under their care. At *Molkem* we dined in a neat new-built house, upon the game we had brought with us, and, as usual, upon our bread and cheese.

Near

Manner of
keeping the
Roads in
repair.

Near *Brättefors*, our fore-axle broke: we therefore left the servants behind, to take care of the phaeton, and to have it mended; and went forward, in a peasant's cart, to the inn; where we hired two more carts to convey us to PHILIPSTAD. *Brättefors* is black with iron forges; and the houses, some of which are good, are painted red. The road to *Philipstad* from *Brättefors*¹ passes many iron-foundries, and leads the traveller through finer scenery than the south of *Sweden* usually exhibits. The soil, if it may bear the name of soil, is altogether incorrigible: it consists of enormous loose fragments of bare granite, piled together till they become mountains, and form steep precipices. Upon these boulders there appears hardly a trace of any vegetable earth, or even of any kind of covering; yet they are thickly planted with forests of tall *pin*es, *birch*, and *juniper* trees, which, in a marvellous manner, have found nourishment for their roots in the interstices between the boulders. Wolves are very numerous here: bears not so frequent. But of all quadrupeds, the most abundant is the beautiful grey squirrel, which is seen skipping in the trees, and continually crossing the road. Sometimes, regardless of the traveller, these playful

(1) For the curious minerals produced in the whole of this mining district, but which did not occur in this route, the reader is particularly referred to *Engeström's Guide du Voyageur aux Carrières et Mines de Suède*; Stockholm, 1796. Also to *Thomson's Travels in Sweden*, c. 20. p. 374. Lond. 1813. According to *Engeström*, *Journée III.* p. 48. there was found in *Brättefors* mine, about the middle of the eighteenth century, a small vein of *ferruginous clay*, crossing the vein of *iron*, very rich in *native silver*, partly massive globular and ramified, and partly mixed in fine grains in the clay; which, moreover, contained a good deal of *kupfer-nickel*, and a little ore of *cobalt*.

CHAP. III. playful little animals, being perched upon a bough near the road, will tumble into all sorts of attitudes, as if purposely to invite his notice, and to entertain him with their gambols.

Philipstad. It was nearly dark before we arrived at PHILIPSTAD. We could perceive some country-seats most delightfully situate upon the shores of the little lake, at the northern extremity of which the town is placed. Although not so large as *Carlstad*, it seemed neater in its appearance. The view of it across a part of the lake, in the approach to the town, affords a most pleasing prospect; and except in such circumstances of situation, there is little variety in the aspect of any of the *Swedish* towns. Having once figured to the imagination a number of low red houses, of a single story, each covered with turf and weeds, a picture is presented to the mind which will serve to give a correct idea of all the oppidan scenery of *Sweden*. There is no other country in the world, excepting perhaps *Russia*, that exhibits, over an equal extent of territory, such unvaried uniformity; and this, not only in the appearance of its buildings, but also of its inhabitants and landscapes. The dress of the women, from one extremity of the kingdom to the other, is nearly the same;—a scull-cap, sitting close to the crown, edged with a little stiff lace, the hair being drawn as tight and straight as possible beneath the cap, from all parts of the head, as if to start from the roots: add to this, a handkerchief, thrown over the cap only when they go out; a jacket; short petticoats; stockings of coloured or white woollen; and high-heeled shoes;—this is the general costume of the *Swedish* women. Then, for the landscape—one unbroken boundless

forest;

Uniform appearance of the *Swedish* towns.

Dress of the Natives.

forest; varied only in the uniformity of its aspect by little patches of cultivated land, enclosed by fences formed everywhere in the same manner, by sloping splinters of deal fastened by withys against upright poles. In fact, there is no other kind of fence used for enclosures over all *Sweden, Lapland, Finland, and Norway.*



Philipstad is supported entirely by the mines in its neighbourhood: its commerce is consequently the same as that of *Carlstad*. It has been often destroyed by fire. The Church is a handsome white building, and looks well in the approach to the town. The environs are well wooded with *fir, birch, and alder*. There are here some good houses, but they are all painted of a red colour. The streets are paved. Most of the houses are covered with masses of iron slag, laid on to keep down the birch-bark upon the roofs.

The next day, *Monday, Nov. 4*, our servants arrived at twelve o'clock with the carriage, which had been well repaired, and, as they said, rendered fit for any journey: but they had lost our bundle of fine *juniper-sticks*, which we had cut in the woods as we passed, and prized very much, as curious memorials of our journey, on account of their straight tapering shape, and the beauty of the bark which

Juniper Trees.

CHAP. III. covered them. Although this loss, it might seem, would be easily repaired amidst the *Scandinavian* forests, we never afterwards saw the *juniper* flourishing in such perfection as upon the frontiers dividing the south of *Sweden* from *Norway*; where it rises, in a sandy soil, to the height of twelve, sixteen, and even eighteen feet. Its branches are more erect than those of the common *juniper*, the leaves narrower and in more acute points, and are placed farther asunder on the branches; the berries also are larger. This *Swedish* or *Tree-juniper* was considered by *Miller* as a distinct species from the *Juniperus communis*; but they are only varieties of the same species¹.

Onshytta.

We left *Philipstad* about four o'clock P.M.; and proceeded one stage, to *Onshytta*. Near this place are the celebrated iron-mines of *PERSBERG*, which it was our object to visit. For this purpose we waited on an officer of the mines, called the *Brúks Patron*, or Intendant; and also upon the Director of the works; begging also to see any collection of the *Persberg* minerals which might be in the place. We were not surprised at being told that no one interested himself in making collections; but that we might collect them ourselves, if we thought proper, at the mines. Having obtained also permission to descend into the principal mine, and to inspect the works, we fixed upon nine o'clock of the following day for making this visit; when the Intendant volunteered his services, and offered to accompany us. We then returned to the inn, where we found a very comfortable room; and spent the rest of the evening in writing our journals from the notes we had made, and in making preparation

(1) *Martyn's Edit. of Miller's Dict. Vol. I. Part 2. Lond. 1807.*

preparation for our subterraneous expedition. Here we saw that remarkable bird, which, in *Norway*, is called, by those who speak the *English* language, the *Wild Turkey*: being, however, not much like a turkey; but properly ranking at the head of the whole genus *Tetrao*, which is seen in such perfection among all the forests of *Sweden* and *Norway*. It is the largest of the two kinds of *Tetrao*, commonly known by the name of *Black-cock*, and is called *Tjader* by the *Swedes*. The male is called simply *Tjader*; but the female, *Tjader hēna*, or the *Tjader Hen*. This magnificent bird, of which we saw the cock in full feather, is the *Tetrao Urogallus* of *Brünnichius*². The *Norwegians* call it *Tiur*, *Teer*, and *Tedder*. We saw also with it the other kind of *Black-cock* found in *Norway*, which enabled us to compare the two together. This last is the common *Black-cock*. The male is called by the *Norwegians*, *Orre*, and *Orr-fugl*; and the female *Orre hēna*. It is the *Tetrao Tetrix* of ornithologists³. Both one and the other are found in tolerable abundance in the woods. Of this beautiful genus *Tetrao*, so valuable as an article of food, and so much esteemed by epicures, no less than eight species are common upon the *Scandinavian* mountains.

Two species of
Tetrao or
Black-cock.

On *Tuesday*, *Nov. 5*, we visited *Persberg*, distant a quarter of a *Swedish* mile from *Onshytta*. There are here not less than thirteen different mines, all worked for *iron*, which have no commu-

Persberg.

(2) *Ornithologia Borealis, Brünnichii*, p. 59. *Hafniæ*, 1764.

(3) *Ibid*. The author has seen the *Tetrao Tetrix* served at a *London* dinner-table: it had been sent as a present from *Norway*.

CHAP. III. communication with each other. To inspect the whole of them would require at least three days of active exertion. The hill, or mountain, in which these mines are situate, is itself entirely composed of veins and beds of iron-ore. A careful examination of one of them may, therefore, serve to afford a tolerably accurate knowledge of the whole. The Intendant who had so politely offered his services upon this occasion, as politely withdrew from the appointment; not being desirous to follow us into the depths of the mine which he saw we were resolved to explore. However, he left us some stout miners to be of the party; men much better suited for the undertaking, and likely to be much more serviceable. For some time after our arrival, we were employed in collecting minerals from the vast heaps of excavated matter, and from the labourers in the works. The list of these will be found in a Note¹; being calculated only to interest the chemical or mineralogical reader. Afterwards, we set out to examine the oldest and the largest of these mines. They are all of them private property, divided into a great

(1) Octahedral crystals of iron-oxide in chlorite.

Foliated sulphuret of bismuth.

Sulphuret of iron, crystallized in the octahedral and cubic form.

Asbestos and amianthus, imbedded in green serpentine.

Steatite and pot-stone.

Crystallized carbonate of lime.

Globular fibrous carbonate of lime.

Dark-green foliated mica.

Leelite—sometimes called flesh-coloured horn-stone.

Hornblende.

Crystallized quartz.

Epidote.

a great many shares. The miners work by measure ; earning daily a sum equal to about two shillings *English* ; that is to say, half a rix-dollar. They are paid weekly.

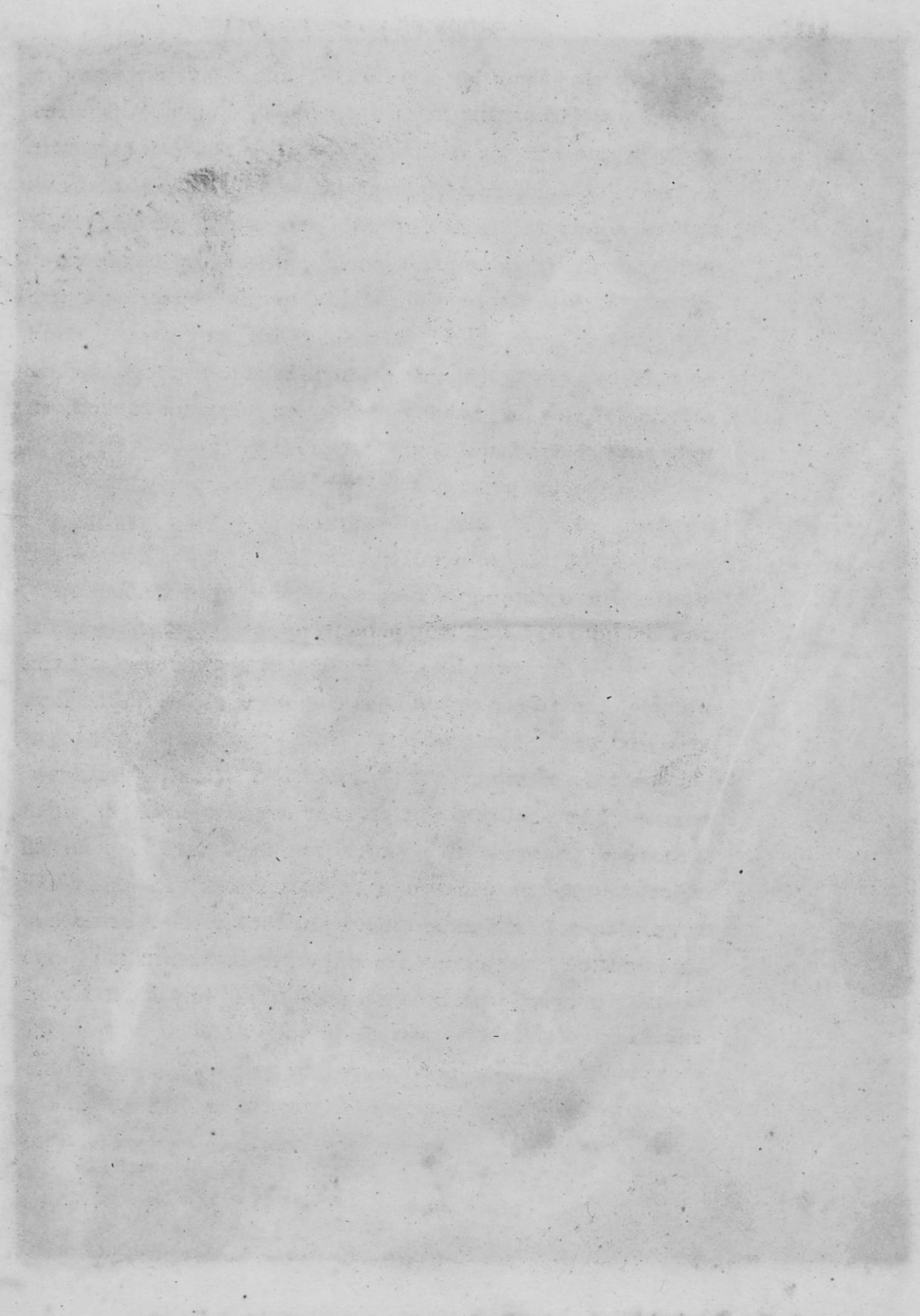
The author's visit to these mines was made after he had personally inspected many of the principal works of the same nature in other countries, and especially in his own. For the last ten years of his life, he had been much in the habit of seeing similar works : it is not therefore owing to any surprise at the novelty of the scene before him, that he has now to mention the astonishment he felt when he arrived at the mouth of one of the great *Persberg* mines ; but he is fully prepared to say of it, and with truth, there is nothing like it in all that he has beheld elsewhere. For grandeur of effect, filling the mind of the spectator with a degree of wonder which amounts to awe, there is no place where human labour is exhibited under circumstances more tremendously striking. As we drew near to the wide and open abyss, a vast and sudden prospect of yawning caverns and of prodigious machinery prepared us for the descent. We approached the edge of the dreadful gulph whence the ore is raised ; and ventured to look down ; standing upon the verge of a sort of platform, constructed over it in such a manner as to command a view into the great opening as far as the eye could penetrate amidst its gloomy depths : for, to the sight, it is bottomless². Immense buckets, suspended by rattling chains,

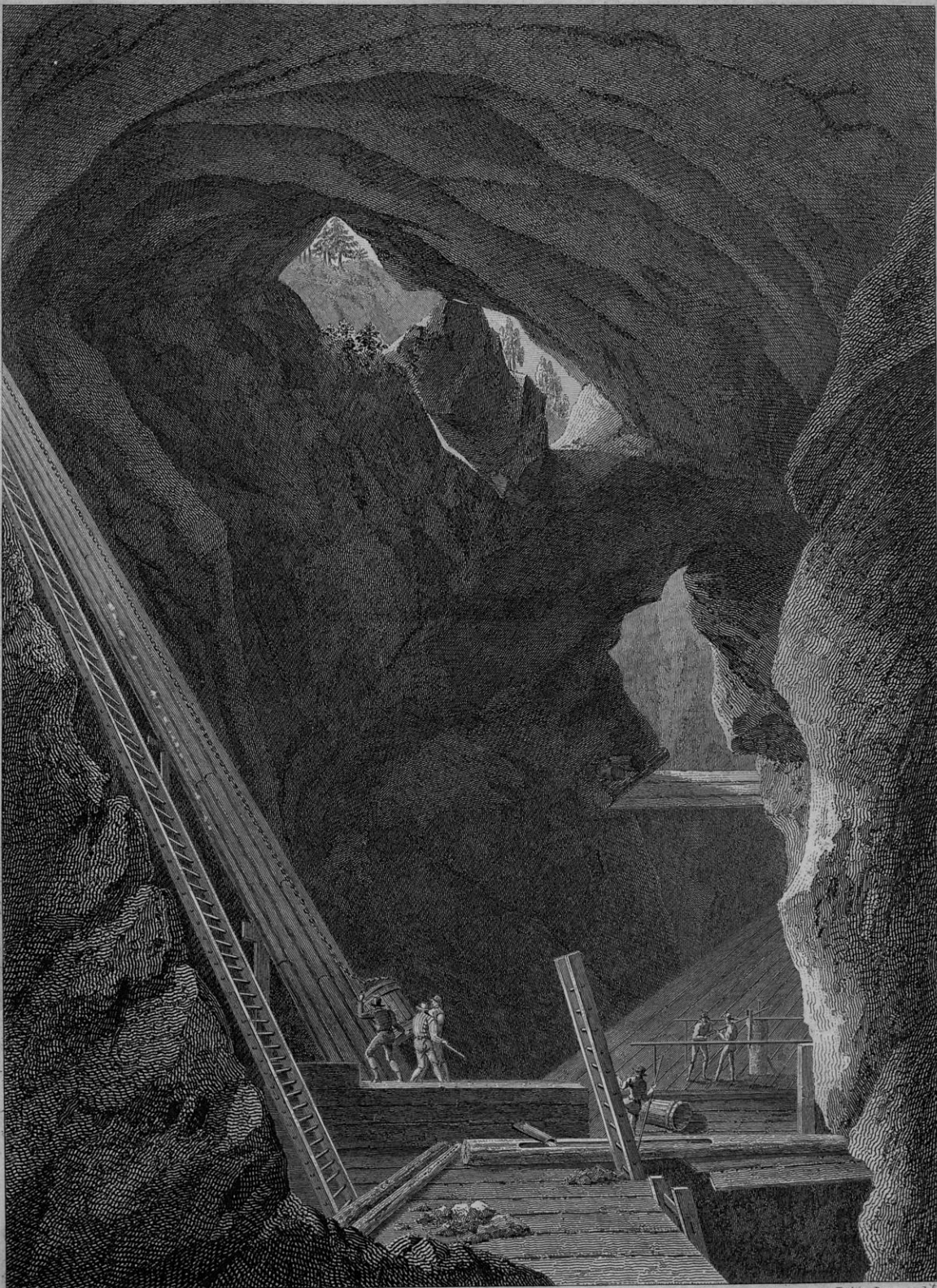
(2) See the Vignette to this Chapter.

CHAP. III.

chains, were passing up and down : and we could perceive ladders scaling all the inward precipices; upon which the work-people, reduced by their distance to pigmies in size, were ascending and descending. Far below the utmost of these figures, a deep and gaping gulph, the mouth of the lowermost pits, was, by its darkness, rendered impervious to the view. From the spot where we stood, down to the place where the buckets are filled, the distance might be about seventy-five fathoms; and as soon as any of these buckets emerged from the gloomy cavity we have mentioned, or until they entered into it in their descent, they were visible; but below this point they were hid in darkness. The clanking of the chains, the groaning of the pumps, the hallooing of the miners, the creaking of the blocks and wheels, the trampling of horses, the beating of the hammers, and the loud and frequent subterraneous thunder from the blasting of the rocks by gunpowder, in the midst of all this scene of excavation and uproar, produced an effect which no stranger can behold unmoved. We descended with two of the miners, and our interpreter, into this abyss. The ladders, instead of being placed like those in our *Cornish* mines, upon a series of platforms as so many landing-places, are lashed together in one unbroken line, extending many fathoms; and being warped to suit the inclination or curvature of the sides of the precipices, they are not always perpendicular, but hang over in such a manner, that even if a person held fast by his hands, and if his feet should happen to slip, they would fly off from the rock, and leave him suspended over the gulph. Yet such ladders are the only means of access to the works below : and as the labourers

Descent into
the Iron
Mines.





Leonia Pyrie. sculp.

*View of the INTERIOR of an IRON MINE in SWEDEN, with the mode
of RAISING the ORE, from a Drawing by MARTIN of STOCKHOLM.*

labourers are not accustomed to receive strangers, they neither use the precautions, nor offer the assistance, usually afforded in more frequented mines. In the principal *tin*-mines of *Cornwall*, the staves of the ladders are alternate bars of wood and iron: here they were of wood only, and in some parts rotten and broken, making us often wish, during our descent, that we had never undertaken an exploit so hazardous. In addition to the danger to be apprehended from the damaged state of the ladders, the staves were covered with ice or mud; and thus rendered so cold and slippery, that we could have no dependence upon our benumbed fingers, if our feet failed us. Then, to complete our apprehensions, as we mentioned this to the miners, they said,—“Have a care! It was just so, talking about the staves, that one of our women¹ fell, about four years ago, as she was descending to her work.” “Fell!” said our *Swedish* interpreter, rather simply; “and pray what became of her?” “*Became of her!*” continued the foremost of our guides, disengaging one of his hands from the ladder, and slapping it forcibly against his thigh, as if to illustrate the manner of the catastrophe,—“*she became (pankaka) a pancake.*”

Catastrophe
which befell a
Female
Miner.

As we descended farther from the surface, large masses of ice appeared, covering the sides of the precipices. Ice is raised in the buckets with the ore and rubble of the mine: it has also accumulated in such quantity in some of the lower

(1) Females, as well as males, work in the *Swedish* mines.

CHAP. III. lower chambers, that there are places where it is fifteen fathoms thick, and no change of temperature above prevents its increase. This seems to militate against a notion now becoming prevalent, that the temperature of the air in mines increases directly as the depth from the surface, owing to the increasing temperature of the earth under the same circumstances and in the same ratio; but it is explained by the width of this aperture at the mouth of the mine, which admits a free passage of atmospheric air. In our *Cornish* mines, ice would not be preserved in a solid state at any considerable depth from the surface.

Bottom of the
Persberg
Mine.

After much fatigue, and no small share of apprehension, we at length reached the bottom of the mine. Here we had no sooner arrived, than our conductors, taking each of us by an arm, hurried us along, through regions of "thick-ribbed ice" and darkness, into a vaulted level, through which we were to pass into the principal chamber of the mine. The noise of countless hammers, all in vehement action, increased as we crept along this level; until at length, subduing every other sound, we could no longer hear each other speak, notwithstanding our utmost efforts. At this moment we were ushered into a prodigious cavern, whence the sounds proceeded; and here, amidst falling waters, tumbling rocks, steam, ice, and gunpowder, about fifty miners were in the very height of their employment. The magnitude of the cavern, over all parts of which their labours were going on, was alone sufficient to prove that the iron-ore is not deposited in veins, but in beds. Above, below, on every side, and in every nook of this fearful dungeon,

Striking scene
in the Great
Cavern.

dungeon, glimmering tapers disclosed the grim and anxious countenances of the miners. They were now driving bolts of iron into the rocks, to bore cavities for the gunpowder, for blasting. Scarcely had we recovered from the stupefaction occasioned by our first introduction into this *Pandæmonium*, when we beheld, close to us, hags more horrible than perhaps it is possible for any other female figures to exhibit, holding their dim quivering tapers to our faces, and bellowing in our ears. One of the same sisterhood, snatching a lighted splinter of deal, darted to the spot where we stood, with eyes inflamed and distilling rheum, her hair clotted with mud, dugs naked and pendulous; and such a face, and such hideous yells, as it is impossible to describe:—

Black it stood, as Night—fierce as ten Furies—

Terrible as Hell——

If we could have heard what she said, we should not have comprehended a syllable: but as several other *Parcæ*, equally *Gorgonian* in their aspect, passed swiftly by us, hastening tumultuously towards the entrance, we began to perceive, that if we remained longer in our present situation, *Atropos* might indeed cut short the threads of our existence; for the noise of the hammers had now ceased, and a tremendous blast was near the point of its explosion. We had scarcely retraced with all speed our steps along the level, and were beginning to ascend the ladders, when the full volume of the thunder reached us, as if roaring with greater vehemence because pent amongst the crashing rocks, whence, being reverberated over all the mine, it seemed to shake the earth itself with its terrible vibrations.

CHAP. III.

Imbedded
state of the
Ore.

We were afterwards conducted into other cavities of the *Persberg* works. The whole hill of *Persberg* may be considered as a vast deposit of iron-ore; the ore lying in separate beds. The miners work in spacious caverns, like those of our salt-mines, at *Sandbach*, in *Cheshire*; excepting that the interior of our salt-mines, containing neither glaciers nor cataracts, nor dreadful precipices to be scaled by means of rotten ladders¹, nor filthy wretched females doomed to do the work of men, are rather pleasing than intimidating in their appearance. The ore of the *Persberg* mines consists of *magnetic iron-oxide*, either in fine or in coarse grains. Those mines which we saw, and in which, working with our own hands, we obtained specimens of the ore, exhibited this *oxide* in a state of very remarkable association with *garnet*; insomuch that *garnet* may be considered here, not only as a leader to the ore, but as the ore itself; many of the specimens wrought for the *iron* they contain being masses of *garnet*. The whole district is of primitive formation; the rocks being of *gneiss* or of *granite*, containing more or less of *hornblende*, and, in some places, beds of primitive *limestone*².

As

(1) The descent into the *Cheshire* salt-mines is by means of buckets, in which ladies may be conveyed into the mine, and back again, with the utmost safety and cleanliness.

(2) *Montana est* " (observes the author of the *Amœnitates Regnorum Sueciæ*, with reference to this province,) "et sylvestris. Metallum fodinas, et nuper admodum ditissimam cupri venam inventam habet." (*Deliciæ, sive Amœn. Regn. Suec. tom. I. p. 442. L. Bat. 1706.*)

" The

As soon as we had concluded our examination of the *Persberg* mines, we went to the Inspector's house, where we packed up our minerals. Afterwards, returning to the inn at *Onshytta*, we set off for *Saxån*. The whole of this part of *Wermeland* is throughout perforated by mines.

About nine *English* miles from *Onshytta*, at a place called *Långbanshytta*, there is an exceeding rich mine of *iron ore*, of which the principal part is the *per-oxide* called *hæmatite*: it lies to the north of the road leading towards *Saxån*; but we could not bestow time enough for visiting this mine. The mineralogical traveller will however be wise, if he do not follow our example in this respect. He will find few mines richer in interesting minerals³. He should also be aware, that at the distance

Långban-shytta.

“The whole of *Vermeland*,” says *Thomson*, “with the exception of a small track on the borders of the *Vener*, is primitive, and may be said to consist entirely of *gneiss* rocks, similar to those which constitute the neighbourhood of *Gottelburg*. Here and there occur beds of mica-slate, limestone, primitive *grünstone*, &c.; but none of them, as far as I could learn, are of any great extent. It is to the *mines* which abound in this province that it owes its chief value.” *Thomson's Trav. in Sweden*, p. 374. Lond. 1813.

(3) It has been wrought upwards of three hundred years. It is near a lake called *Långban*. According to Dr. *Thomson*, (*Trav. in Sweden*, p. 378,) it lies in a *limestone* rock. The minerals found in this mine are:

1. Sub-varieties of *hæmatite*.
2. Magnetic iron-oxide, granular, fibrous, and crystallized. Also micaceous iron and specular iron ore, similar to that from *Elba*, yet attracted by the magnet.
3. Sulphuret of iron.
4. White manganese spar, globular and radiated.
5. Iron spar.
6. Ferruginous scintillating sulphate of lime.
7. Sparry carbonate of lime.
8. Red and brown jasper, according to *Engeström*. According to *Thomson*, this is iron flint.

9. Garnets,

CHAP. III.

distance of ten *English* miles and a half from *Philipstad*, there are the *iron-mines* of *Normark*, in which the minerals are neither so curious nor so varied and abundant as at *Långbanshytta*; but the mines themselves are very antient, and well worthy of his attention'. A little more than an *English* mile from *Normark* are also the *iron-mines* of *Taberg*; and

9. Garnets, red and yellow; containing from 15 to 21 percent. of iron. (*Thomson*.)—

Dr. *Thomson* mentions a garnet found here, containing, besides 26 per cent. of oxide of iron, above 8 per cent. of oxide of manganese, lime, carbonic acid, and soda: the silica amounting to 35.20.

10. Pycnite.

11. Tourmaline.

12. Green and yellow serpentine.

13. Mountain-leather, mountain-cork, and other varieties of asbestos and amianthus.

14. White clay.

15. Black massive hornblende.

16. Epidote.

17. Sahlite.

18. Petroleum, and glance-coal.

19. Red silicate of manganese.

(1) It lies in mica-slate. Limestone, containing manganese and hornblende, occurs in this mine. (*Thomson*.)—Its other minerals are:

1. Magnetic iron-oxide.

2. Sulphuret of lead, crystallized.

3. Varieties of crystallized carbonate of lime.

4. Varieties of asbestos. *Mountain-leather, mountain-cork.*

5. Dark foliated mica.

6. Dark-green fibrous hornblende.

7. Crystallized sahlite.

8. Red garnet.

Dr. *Thomson*, (*Trav. in Sweden*, p. 375,) mentions a peculiar mineral found in this mine, which has not yet been named. It was examined, he says, by *Gahn*, who found it to contain muriatic acid. It occurs crystallized in regular six-sided prisms: its colour is yellowish brown, passing into greenish: by transmitted light, it appears greenish yellow. Its specific gravity equals 3.081.

and they are rendered remarkable for the singular varieties of *asbestos*, particularly the beautiful *amianthus* found there². In returning to *Philipstad*, after visiting these mines, he will also find the iron-mine of *Agegrufvan*, which lies close to the road³. Leaving *Onshytta*, we were struck by the appearance of

CHAP. III.

(2) This iron mine lies also in mica-slate. The ore is magnetic iron-oxide. Its principal minerals, according to *Engeström* and *Thomson*, are:

1. Black granular magnetic iron.
2. Sulphuret of zinc.
3. Cubic sulphuret of iron.
4. Lime-spar.
5. Micaceous steatite, and serpentine.
6. Dark-green foliated mica.
7. Varieties of amianthus and asbestos.
8. Native bismuth.
9. Sulphuret of copper.
10. Magnesian carbonate of lime. (*Bitter-spar*.) Also light-blue *bitter-spar* mixed with *asbestos*.
11. Dark-green chlorite.
12. Light-green asbestiform actinote.
13. Light-green glassy tremolite.
14. Silicate of magnesia, called *greenish-grey steatite*, consisting of

Magnesia	- - -	31
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Silica	- - -	48
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Iron	- - -	5
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Volatile matter	- - -	16
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100 *Geijer*.

(3) The mines of *Age*, called *Agegrufvan*, are situate about seven miles from *Philipstad*. (*Thomson's Trav. in Sweden*, p. 377.) Like the preceding, they consist of iron ore, which occurs in a rock of mica-slate. The minerals found here, are:

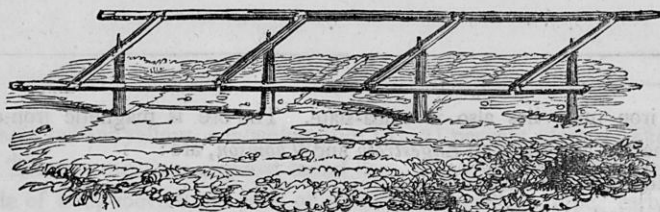
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|--|--|
| 1. Massive and granular magnetic iron-oxide. | 6. Epidote, crystallized in quartz. |
| 2. Many varieties of lime-spar. | 7. Massive epidote. |
| 3. Garnet, in regular dodecahedral crystals. | 8. Various forms of asbestos. |
| 4. Dark foliated mica. | 9. Hydrates of silica, of various colours. |
| 5. Black foliated hornblende. | 10. Crystallized quartz. |

For

CHAP. III.

Machinery for
the Mine
Pumps.

of a most curious mechanical contrivance, which presented itself in our road, for working the mine pumps. It consisted of a most extensive combination of levers, all in motion, working parallel to each other by means of water, being separated by transverse bars resting upon upright posts with pivots.



These bars were about eight or ten feet in length; but the side levers extended to mines out of our sight. The stream and wheel for giving motion to these levers was on the left-hand side of the road; under which, in one place, the levers passed, and, appearing again on our right, extended over the surface of the ground as far as we could see. Their appearance all in motion, without any person being visible near them, was very extraordinary; for it is difficult to conceive how so much machinery, consisting of such numerous parts, can be preserved in free action and without injury, remote from all observation. We afterwards passed several of these water-works, affording astonishing proofs of the extensive mining operations here carried on. They all move alike, by a successive series of impulses.

Our

For an account of other mines and minerals in the Province of *Wermeland*, the Reader is referred to *Engeström's Guide aux Mines de Suède; Stockholm, 1796*: but for much better, and more scientific information, to *Thomson's Travels in Sweden, Lond. 1813*.

Our journey from *Onshytta* to *Saxan* was over a wild and mountainous district; but the roads were excellent. Quantities of slag and scoriæ, in our approach to *Saxån*, denoted the presence of *iron-foundries*, to which it owes its support. Part of the *iron* ore from *Persberg* is brought here to be smelted and forged: it is then conveyed, in the form of *bar-iron*, to *Christinehamn*, and thence, by the *Lake Wener*, to *Trollhætta* and *Göthenburg*. This trade supports the village of *Saxån*, which consists of a rich and good inn, and a few respectable farm-houses.

CHAP. III.

Saxån.

On *Wednesday, Nov. 6*, we left *Saxån* about seven A.M. The morning was very wet and cold. We had proceeded about half a *Swedish* mile in our day's journey to *Laxbro*, when we passed the boundary of the province of *Wermeland*, and entered into *Westmanland*, or, as it is sometimes called, *Westmania*; the natives of which province speak the *Swedish* language in greater purity, and with a better accent, than any other. Our road lay through forests. In going to *Nytorp*, our first relay, the appearance of beautiful lakes, like those in the north of *Sweden*, engaged our admiration. We often wished to halt, and make drawings of them. The timber in these forests runs to a prodigious height, but the trees are slender, and by no means equal in bulk to those we had seen in other provinces. We passed *iron-foundries* and *sawing-mills*. From *Saxån*, the whole way to the frontier of *Dalarne*, or *Dalecarlia*, in journeying through *Westmanland*, the traveller constantly meets with mines or *iron-foundries*: and it is worthy of remark, that whenever these appearances

take

CHAP. III.

take place, there are also evident marks of the blessings of industry, in the neatness and comfort of the dwellings near them, and sometimes in the signs of wealth and of elegance which may be observed. These subterraneous treasures, and their consequences, in employing so many foundries, and in requiring so much aid of machinery for working the mines, are among the most profitable possessions of *Sweden*. Their evident importance in the prosperity to which they give rise, throughout districts that would otherwise be deserted, ought to serve as a lesson to the inhabitants of other countries to seek diligently for such sources of industry and opulence where the features of the country are unfavourable to agriculture; since it is the same Providence which renders productive to human labour the most bleak and barren rock, and the most fertile vegetable soil. We had left *Wermeland* with feelings very different from those with which we entered it from *Norway*; where the barren aspect of the country seemed calculated to excite the murmur of its inhabitants. For even amidst these rocks we beheld “a land which the Lord had blessed;”—a land, it is true, where sluggards might starve,—as they may anywhere; but where a sturdy and active race of men have already found all that is necessary for the comforts and even for the luxuries of life;—“A LAND WHEREIN THOU SHALT EAT BREAD WITHOUT SCARCENESS, NOR LACK ANY THING IN IT; A LAND WHOSE STONES ARE IRON, AND OUT OF WHOSE HILLS THOU MAYEST DIG BRASS.”

Hällefors.

About nine *English* miles from *Saxån* is *Hällefors*, a place long

long rendered remarkable for its *silver-mines*, but which are now nearly exhausted'. Three *English* miles and a half beyond *Hällefors* we arrived at *Nytorp*. Rain fell incessantly, and in torrents; but the roads, as before, were so excellent, that it seemed to make no alteration in them. Leaving *Nytorp*, and going towards *Hjulsjö*, we observed beautiful lakes on each side of the route. We had forest-scenery in our way from *Hjulsjö* to the mines of *Nya Kopparberg*; a name signifying the *New Copper Hill*, or *Copper Mountain*; in opposition to *Gamla Kopparberg*, or the *Old Copper Mountain*, the name usually given to the works at *Fahlun*. The *copper-mines* of *Nya Kopparberg* were exceedingly rich when they were first discovered, but at present they are poor. The whole district is of primitive formation, and consists of *schistose* or *foliated granite*. Various specimens of *granite* may be had from these mines; and several varieties of *fluor-spar*, which is not a common mineral in *Sweden*. We found here that interesting variety of *fluor-spar*, which, from its phosphorescing with a green light, is called *Chloro-*

CHAP. III.

*Nytorp.**Nya Kopparberg.**Minerals.*

(1) The minerals found at *Hällefors* are :

1. Argentiferous sulphuret of lead.
2. Sulphuret of lead, crystallized in cubes.
3. Micaceous sulphuret of lead.
4. Yellow sulphuret of copper, in acicular crystals.
5. Sulphuret of iron, in various forms.
6. Sulphuret of zinc.
7. Lime-spar.
8. Crystallized quartz.
9. Hydrates of silica, of various hues.
10. Siliceous breccia.

CHAP. III. *Chlorophane*: and it may be remarked, that *fluor* never exhibits phosphorescence in such a high degree of perfection, or with such beautiful hues, as when it is found in a state of association with the *ores of copper*¹. The ore of *Nya Kopparberg* is the *yellow sulphuret*, called *copper pyrites*: it is found accompanied by the *sulphurets of zinc and iron*. Among the rarer minerals of this mine may be mentioned the remarkable substance to which *D'Andrada* gave the name of *Petalite*; since rendered so interesting to the mineralogist and the chemist by containing *Lithina*, the new alkali, discovered in this mineral by *Arfvedson*, the pupil of *Berzelius*².

The village near which the *Nya-Kopparberg* mines are situate,

(1) The minerals of *Nya Kopparberg* are :

1. Grey sulphuret of copper.
2. Yellow sulphuret of copper—*peacock-ore of copper*.
3. Sulphuret of zinc.
4. Sulphuret of lead.
5. White, green, and violet fluor-spar.
6. Fibrous hornblende.
7. Actynolite.
8. Pot-stone,
9. Dark-red feldspar.
10. Mica.
11. Sulphuret of iron.
12. Quartz.
13. *Petalite*. (See *Thomson's Travels in Sweden*, for this locality of *petalite*.) The mines from which the specimens have been derived that have been usually sold in *England*, are those of *Utö*.

(2) This discovery took place nearly at the same time that the analysis of *petalite*, by the author of these Travels, was published in *Dr. Thomson's Annals of Philosophy*. The author had transmitted to the celebrated *Berzelius*, through *Mr. Swedenstierna* of *Stockholm*, his doubts as to the presence of a new body in *petalite*, calculated to supply the loss sustained in his own examination of that mineral. In *Mr. Swedenstierna's* answer, the discovery of *lithina*, by *Arfvedson*, was announced. *Mr. Swedenstierna's* Letter is dated *February 17th*, 1818. It is now in the author's possession.

situate, is called *Laxbro*. The inn here was quite full, owing to a Sessions held by the principal Magistrate of the district: but the master of the inn, with great kindness, had provided for us most excellent accommodations in a very splendid house, hard by, belonging to one of the proprietors of the mines. We found here a few books which convinced us that topographical works were beginning to make their appearance in *Sweden*. Among others, we saw a description of the town of *Orebro*, with plates tolerably well executed: it had been printed in *Stockholm*. The business of the Sessions had assembled some of the lawyers. We passed the evening with one of them, a very intelligent man, well read in the antiquities of his country, and well acquainted with the *Finnish* language. He told us, that this language is more difficult for a *Swede* to become acquainted with, than with *English*; which must be evident to an *Englishman*, from the resemblance his own language bears to the *Swedish*; and its total discrepancy, when compared with the language of *Finland*, which seems to bear no resemblance to any other language, if we except that of *Lapland*, to which, however, it is not nearly allied. A curious circumstance happened in former times, during a war between *Sweden* and *Russia*. A colony of *Finns*, disturbed in their settlements by the predatory incursions of the *Russians*, deserted their country, crossed the *Gulph of Bothniã* at the *Quarcken*, and established themselves in the forests of *Herjeådaalen*, where their descendants, at this hour, speak the *Finnish* language in its original purity.

If

CHAP. III.

Beauty of the
Lakes.

If we were to describe all the beautiful lakes which we saw in our next day's journey, *Nov. 7*, in going from *Laxbro* to *Bommarsbo*, the Reader might fancy himself transported, by the Fairy-led Muse of *Spenser*, amidst the scenes of some terrestrial paradise. So much is due to the picturesque beauty of the landscapes. A traveller, who is a draughtsman, might be tempted to halt almost at every instant, and endeavour to delineate some of these delightful views.

Soon after leaving the house of the wealthy proprietor who had so politely and hospitably received and entertained us, we passed close to the mouth of one of the principal mines, which, with its yawning gulph and complicate machinery, occurred by the side of the road. There was not a living creature to be seen near it; but we were told that a numerous body of miners were at their work below. No precaution is used in *Sweden*, either to close up, or to fence, the dangerous pits which have been made in working the mines; neither is there any sign by which their situation may be known. The consequences must be obvious, in the accidents which happen: for the benighted stranger who is travelling in this country, and the herds of cattle foddered in the forests, must be constantly liable to fall into them. We passed some of the lakes before mentioned. Near *Hogforss* we saw a smelting-house, once used for *silver ore* found near this place, in *Christian's Mine*, which is now exhausted. A continued series of lakes was exhibited to us, in the midst of the most beautiful undulating forest scenery, during the journey from *Hogforss*, through *Hellsion*, to *Ostanbo*, which is situate
upon

upon one of those lakes. How numerous are these aqueous scenes in *Sweden*! May they not be considered as the reliques of that vast world of retiring waters, out of which rose the rocks and the forests of *Scandinavia*; and of which the *Wener* and the *Wetter* Lakes, nay, even the *Gulph of Bothniå*, and all the *Baltic* Sea, are themselves only the vestiges? "These lakes," says *Thomson*¹, in his valuable account of *Sweden*, "consist of the purest and most transparent water; and serve not only to beautify the country, but are a considerable resource to the inhabitants, on account of the numerous fish which they all contain." In very many instances, their banks are so covered with wood, that the trees grow luxuriantly quite down to the water's edge; which remark particularly applies to the *Wener*, covered all round its shores with the most magnificent groves. Yet that these lakes are but the remains of an overwhelming deluge, once as hostile to the prosperity of the human race as they now are beneficial, is evident from this circumstance, that their waters are gradually retiring. Judging therefore of the distant and the future by the present, we may fairly conclude, that, as a general flood once involved the whole of this watery region, out of which—realizing the antient fable of a *Venus Anadyomene*—has risen the whole of *Scandinavia*, so it is reasonable to infer that some portion of mankind, yet unborn, will hereafter people the mountains and the hills, and

Diminution
of their
Waters.

(1) *Trav. in Sweden*, p. 392. Lond. 1813.

CHAP. III.

and the valleys now covered by the waves. "There is great reason to believe," observes the author before cited¹, "that the lakes in *Sweden* are diminishing in their size, and that many of them will at last dry up. I saw several striking instances of this diminution. It is attended with a corresponding diminution in the size of the *Swedish* rivers; most, if not all, of which originate from lakes. This diminution has become so striking at *Upsala*, that apprehensions are entertained that the river running through the city will soon be incapable of driving a corn-mill, upon which the University depends for a considerable part of its revenue. A diminution in the size of the *Baltic* has ever been remarked by the *Swedish* writers; and demonstrated by evidence that, to me, at least, appears incontestable."

Smedbacka.

From *Ostanbo* to *Smedbacka*, the distance is only half a *Swedish* mile. Here we found an iron-foundry, and several new buildings pleasantly situate upon a lake. We considered a dirty inn at *Smedbacka* as by no means a common

Blood Cakes.

occurrence in *Sweden*. In this country, cakes are made by mixing the blood of animals with rye-flour, which are afterwards fried in grease, and esteemed luxurious articles of food. Should any fastidious reader consider such a diet as the remains of barbarous *Teutonic* customs, let him be reminded, that where refinement is supposed to be exhibited in its most boasted state of advancement, it is no unusual thing to see a mixture of blood and fat stuffed into a swine's entrails, and
served

(1) Trav. in *Sweden*, p. 394. Lond. 1813.

served up at the tables of the great, under the name of *black-puddings*; at which, perhaps, his own mouth has often watered.—Peace, therefore, to the poor *Swede*, who seasons his rye-cake with blood!

CHAP. II.

Between *Smedbacka* and *Bommarsbo*, we entered the province of *Dalarne*, or *Dalecarlia*. Here a botanist might amuse himself, amidst the supreme court of the *Cryptogamia*, by selecting, in their best dresses, the most luxuriant specimens of *Fungi* and *Musci* which perhaps he will find in all Europe. Every species of *morel*², in the most grotesque forms, like a very buffoon of plants, and of uncommon size, grows here: also various kinds of *Lycopodium*, especially the *complanatum* and the *annotinum*:—the former, called *jåmna* by the *Swedes*, and pronounced *yemna*, is the common tenant of all the sterile forests in *Sweden*: it is often used, by the natives, for giving a yellow dye to their wool. Of the *morels*, we observed, that in proportion as their growth was the more luxuriant, so much the more remarkable was the plant for its strange and misshapen appearance: it was hardly possibly to view some of them without laughing; so uncouth and ridiculous was their appearance: we might almost fancy that there existed a spirit of fun and caricature in the lowest order of vegetable beings. At *Bommarsbo* we found only a single house. The owners were poor; but the accommodations were clean and good, and much superior to those of *Smedbacka*. In *Sweden*, as in *Norway*, every housekeeper

Entrance of
Dalecarlia.

Varieties and
Luxuriance of
the *Fungi* and
Musci.

Bommarsbo.

(2) *Phallus esculentus*, *Phallus impudicus*, and *Phallus caninus*.

CHAP. III.

Home Manu-
facture of
Candles.

housekeeper manufactures his own candles; and some of these home-made candles were brought to us, as clear and white as if they had been composed of pure spermaceti. But what is more curious, they are often not made until after the traveller arrives. At *Bommarsbo*, they were made and sent in almost as quickly as they could have been procured at the great inns of *Salt Hill* or *Marlborough*, by an order given to a waiter.

Russ-gården.

Naglarby.

General Fea-
tures of *Da-*
lecarlia.

Upon the 8th of *November* we left *Bommarsbo*, at eight A.M. with a view of a lake towards our right, which continued for some distance: and when we left it, a more distant view of lakes and islands extended towards the south-east. We changed horses at *Russ-gården*, and proceeded to *Naglarby*; passing, in our way, an extinct iron-mine, and also a place where there had been a foundry. As we drew near to *Naglarby*, the country was more open, well cultivated, and fully peopled. The general aspect of *Dalecarlia* is that of a level fertile plain, enclosed for agriculture, and surrounded by mountains. The village of *Naglarby* is situate in this plain, and surrounded by *lakes* and *rivers*. After we left it, we continued along this delightful plain for about two *English* miles, when we came to a ferry over the river *Dal*; and, in our way to this ferry, saw several tributary streams, in which a sort of stake-fences were set in all directions, as enclosures to catch the numerous fishes wherewith these waters abound. Our road from *Naglarby* to *Fahlun* was long and dreary, chiefly by the side of the *Dal*. Upon the left of our route we were shewn the residence of the woman who was nurse to the young king, *Gustavus the Fourth*.

The

The Court of *Sweden* chose for this purpose a *Dalarne* peasant; the females of this country being esteemed not only as the best nurses of *Sweden*, but as valuable servants in any menial capacity in which they engage. Everything that a *Dalarne* man does, is thought better done than if executed by other hands: and, in their own opinion, the natives of this province believe that no people can compare with them. The number of births in *Dalecarlia* is surprisingly great: but as its produce is not equal to the support of one half of its population, the youth of both sexes are sent out to earn a livelihood in different parts of *Sweden*: afterwards they return home, as they do not choose to marry out of their own province. A *Dalarne* man always considers himself equal, in strength, prowess, and ability, to any two of the natives of the rest of *Sweden*. The antient language of the people, and their antient mode of dress, is still kept up among them. We were told that in the northern district of this province a dialect is spoken closely resembling *English*; but the same may be said of other parts of *Sweden*: and more than once we had an opportunity of remarking, that when the *Swedes* offered examples of *Swedish* dialect which to them were almost unintelligible, either owing to their antiquity or to their provincial character, they were, on this account, the more intelligible to us; and so like to our old *English* language, that they differed from it only as the sort of *English* used by *Robert of Gloucester*, exhibiting the transition from the *Saxon* to the *English* language¹, or that which

Bellenden

Dialect.

(1) See Dr. *Johnson's* History of the *English* Language, in the Preface to his Dictionary.

CHAP. III. *Bellenden* adopted in his translation of *Boëthius*¹, differs from the *English* now in use². The aspect of the country is not like that of *Sweden* in general, being more level and open: we thought it resembled *Cambridgeshire*. The old dance of the *Dalecarlians* is simple, and very pleasing: it is performed

Antient
Dance.

(1) *Hector Boëce*, or *Boëthius*, Canon of Aberdeen, wrote a *History of Scotland* in 1546: its translation, or paraphrase, was written by *Bellenden*, Archdean of Murray; and appeared in *Edinburgh*, in black letter, in 1541.

"They use," says Dr. Thomson, "a dialect of their own, similar to that dialect of *English* which is spoken in the Lowlands of *Scotland*. It is reported, that a *Dalecarlian* who spoke this language, being landed near *Aberdeen*, was understood by the inhabitants." *Trav. in Sweden*, p. 202.

(2) *Holenius*, of *Fahlun*, in the *Dissertationes Academicæ* of *Upsal*, published a brief Vocabulary of the *Dalarne* dialect, shewing its relationship to the *Gothic*, *Icelandic*, *Danish*, *Saxon*, *Teutonic*, *Vandalic*, *German*, *English*, *Greek*, *Spanish*, *Italian*, *Anglo-Saxon*, *Franco-Theotisc*, and *Mæso-Gothic*. See the Section entitled "*De Lingua Dalecarlorum hodierna*," in the Second Part of his Thesis "*De Dalekarlia*," printed at *Upsal*; p. 139.—Many other instances might be adduced, more striking to an *English* ear than those which he has mentioned; but among them are the following:—

DALARNE.	ICELANDIC.	ENGLISH.
Bradda . . . <i>jentaculum apponere</i> .	Braud	Bread.
Dret . . . <i>Excrementum</i>	Drit	Dirt.
Friosa . . . <i>Frigere</i>		to Fry.
Gron . . . <i>Seges</i>	Grion	Grain.
Grass . . . <i>Gramen</i>		Grass.
Hetta . . . <i>Capitis tegmen</i>	Hattur	Hat.
Ig <i>Ego</i>	Eg	I.
Is <i>Glacies</i>		Ice.
Jåta . . . <i>Edere</i>		to Eat.
Knaif . . . <i>Culter</i>	Knißfur	Knife.
Lyr . . . <i>Hepar</i>	Lyr	Liver.
Miog . . . <i>Multum</i>	Miog	Much.
Miook . . . <i>Lac</i>	Miook	Milk.
Såltt . . . <i>Sal</i>	Salt	Salt.
Ura . . . <i>Auris</i>	Eyra	Ear.

performed by three persons,—a man with two women, one on each side of him, who alternately engage his attention, until the dance concludes by an *allemande*, in which, as by one accord, they all join. We have found occasion, in former parts of our journey in *Scandinavia*, to allude to the curious remains of customs which belonged equally to the *Hyperboreans* and the *Greeks*. Whoever attends to the rites and ceremonies of a *Dalecarlian* wedding, will be struck with their resemblance to the manners of the antient *Greeks*. Of this the *Swedish* writers have, in some instances, been themselves aware²; although sometimes it may have led them erroneously to suppose that one nation owed its origin to the other, rather than that both were the descendants of one common stock. That we may avoid repetition, we shall not again otherwise notice the curious *Runic Staves*, of which we met with more than one instance in the villages of *Dalecarlia*. That they are the same as the *written rods* mentioned in the earliest part of Sacred Scripture, has been already shewn, in a former part of this work³. But the original use of them we found here sufficiently explained: for, like the staff of an *Ataman* among the *Cossacks*, they are still

Original use
of the *Runic*
Staves.

(2) "Quod si comparatio accuratio instituenda foret Græcorum Romanorumque rituum circa nuptias, in multis Dalekarlorum ac veterum Hyperboreorum responderent." *Ibid.* p. 137. *Conf. Heims Kringla Peringsk. tom. I. pp. 140, 557, 655. tom. II. p. 425. Verelii Not. in Hist. Herv. c. 4. LL. Dal. Tit. de Matrim. sect. 1, & 2. Sagan af Hæсна Thorir. c. 17, 18, 19. Alb. c. 6. Thorde Hredo, c. 17, 37. Liosvet. S. p. 17. Gunlaug. Ormst. S. p. 18. Wilhelm Siodz, c. 68, & c. Ol. Tryggw. c. 29, 42. Herraudz oc Bosc. S. c. 11, & c. Swarfdala, c. 17. Eigla, c. 11, & 56. Rod. hin Spaka, c. 1. Isfrd, c. 34. Codd. MS. in Arch. Antiquit. Holmensi; Jac. Gronovii Thes. Antiq. Gr. tom. VII, & VIII. J. G. Grævii Thes. Antiq. Rom. tom. VIII, & XII.*

(3) See SCANDINAVIA, Part I. Chap. XV. p. 554.

CHAP. III. still regarded as ensigns of office, and are borne in the hand, upon particular occasions, by the Elders of each village where they are found. The earliest *Grecian* annals seem also to allude to similar insignia, as the staves of the accredited agents of power¹.

One

(1) A passage in Dr. *Fiott Lee's* MS. Journal remarkably illustrates the use of these *Runic Staves*; which may have been alluded to by *Homer*, and are evidently the same as the *sticks* of the *Tribes of Israel* mentioned in Scripture:—

“ When *Jupiter* had occasion to despatch his courier, we are told by *Homer* that *Mercury* εἶλετο τὸ ξίφος τῷ δ' ἀνδρῶν ὄμματα θέλγει, τῷ κ. τ. λ. ταρτάρων κ. τ. λ.: and probably without this ensign of office which he took with him, he had no powers at all. His efficacy thence originated. He had no influence in his proper person. And, lo! this wand was but a piece of ivory!

“ When I was on the borders of *Lapmark*, in a peasant's house called *Niemesele*, on a lake side, I observed, hanging up, a square-sided stick about a foot long, with fine gilt-work and carving about it; and on one side were cut the following ten characters:



I was much amused with it, and asked them to part with it; intending to make them a small present, which, in my opinion, would be an equivalent; when it turned out that I might as well have asked the Lord Mayor for the city-mace: and judge of my surprise, upon hearing that it was the ensign of office in the village; that he who had it in possession, *pro tempore*, was the Chief, the Civil Governor of the village, which consisted of ten families, each of which had its own distinguishing mark;—that upon any very public and important emergency, which demanded the collected wisdom and experience of the heads of the families to decide upon, this stick was sent round to each family; and every head of a house, upon seeing his family-mark, immediately repaired to the house of him in whose custody the stick had been consigned, and there they all held their deliberations. In case they do not attend the summons, they are severally fined. No money therefore could have purchased it: and that which I at first regarded as an object of amusement, I found to be held an object of veneration.”

Dr. Lee's MS. Journal.

One mile and a quarter before we reached *Fahlun*, we turned a little out of the road, to visit the house in which *Gustavus Vasa* remained concealed, and whence he afterwards effected his escape, by means of a privy. It is at a place called *Stora Ornäs*. This house is now the property of a Colonel in the *Swedish* service, who has been at great pains and expense to preserve, as much as possible in its pristine state, this asylum of the great father of the *Swedish* Kings. They shewed to us the chamber and bed in which he slept; his clothes, weapons, coat of mail, and many other things, even to his watch and his Bible. His watch and coat of mail appeared to us to be the most curious reliques. The watch was of an oval shape, but the figures upon it were like those now in use. The coat of mail was like the armour used by the *Circassians*; and was perhaps manufactured in *Mount Caucasus*, where the natives still sell such articles of their manufacture to the *Russians*. It is a shirt of twisted mail, fitting close to the body, through which no common weapon could penetrate. We found the weight of it by no means insupportable for men of much less prowess than was the hero to whom it belonged. Upon a table in the room were laid several books illustrating the history of *Gustavus Vasa* and of the province of *Dalecarlia*. This chamber was ornamented with portraits, very indifferently executed, of the Kings and Queens of *Sweden* since the time of *Gustavus Vasa*. There was also an immense genealogical-tree, exhibiting their pedigree. In the same room were figures, as large as life, representing the *Dalecarlians* according to their antient mode of dress, with high-crowned hats, white woollen clothes, and

trowsers

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trowsers tied above the knee; bearing in their hands cross-bows, and having each a knife and a grease-pot suspended from a belt. These they said were the images of the very peasants who assisted *Gustavus Vasa* in making his escape. They were represented with long beards, and reminded us of some of the natives of the *Swedish Alps* which we had seen in the province of *Herjeådalen*. Here there is also an effigy of *Gustavus Vasa* himself, placed beneath a canopy; and also of his page or esquire, in complete armour. The bed and the canopy terminate upwards in a point, upon which is placed a coronet. The complete preservation of this building will shew to what a length of time the wooden houses of *Sweden* may be made to last, if they be kept dry and in good repair.

Approach to
Fahlun.

From *Stora Ornås* to *Fahlun*, the roads, at this season of the year (*November*), are not good; owing, as we supposed, to the very considerable traffic which is carried on, in consequence of the mines, and the heavy burdens made to pass and repass. Upon our right appeared beautiful views of the *Lake Runn*. Just before we arrived at *Fahlun*, we had a prospect of the town, with all the buildings, machinery, and other works belonging to its antient mine; but in the midst of such columns of smoke, and fumes of sulphur, that it seemed as if the great bed of the *Solfaterra*, near *Naples*, had taken flight and settled in *Sweden*. As we descended towards the town, the houses appeared like so many tarred boxes, in the midst of a bleak and barren soil. We passed under the enormous moving levers which are employed in working the pumps. The wheels giving motion

to these levers are kept in covered buildings: they are moved by over-shot falls of water, brought from the Lake *Runn*.

The road leading into the town passes close to the edge of the stupendous crater which is now the mouth of its famous copper-mine. We shall say much more of it in the next chapter. Considered only as to its external aspect, it is one of the most surprising artificial excavations which exist in the world. Knowing of no other work of a similar nature with which to compare it, we shall call in the aid of the pencil to supply the deficiencies of verbal description: but the ingenious artist who has afforded to us the means of doing this, is himself unequal to the task of representing a scene of so much fearful grandeur. All the magnitude of this amazing result of human labour loses much of its effect by that minuteness of detail which is necessary to a faithful representation of the machinery belonging to the mine. While we are forced to acknowledge this striking defect in the best drawing we could procure of the *Fahlun mine*, we are consoled with the reflection, that even this will be deemed by our Readers much better than if no representation whatever were given of a work so renowned, and a scene so remarkable.

External
aspect of its
Copper-Mine.

- A. *The great Crater.*
 B. *Town of Fahlun.*
 C. *King Adol-Frederick's Shaft.*
 D. *Lowest point of the Mine.*



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FAHLUN TO SALA.

Antiquity of the Fahlun Mine—Assessor Gahn—Copper-ore—Descent into the mine—Conflagration—Method of excavating the ore—Manner in which it is found deposited—Accident which caused the present Crater—Tradition of the miners—Appearance of the descent—Names of the different openings—Increase of temperature in the lower chambers—View of the bed of fire—Council-chamber—Subterraneous stables—Stalactites of green vitriol—Pumps—Mode of dividing the ore—Value of the Shares—Bergsmen—Valuation of the Lots—Produce of the Works—Present state of the Fahlun Mine—Works above ground—Vitriol manufactory—Remarkable form of precipitated copper—Process for concentrating the lye—Subsequent crystallization of the salt—Town of Fahlun—Wood impregnated with copper—Punishment of “Riding the great horse”—Public buildings—Geological features of Dalecarlia—Säter—Mines in its neighbourhood—Hedmora—Curious floating-bridge—Nuptial festivities—Annual return of Dalecarlian Peasants—Avestad—Character of the Swedish Peasants—Broddebo—Custom in passing a Robber’s grave—Sala—Mine of Salberg—Nature of the ore—Descent into the Salberg—Minerals—Town of Sala.

“THE Mine of *Fahlun*,” we are universally told, “was worked before the Christian æra:” but who can pretend to determine any thing of *Swedish* history before the time of our Saviour? Much of the confusion which bewilders every research into the earliest *Scandinavian* annals has been caused by those writers who have laboured to establish a notion that this country was the original habitation of the *Goths*; whereas there is great reason to believe, that, in the beginning of our æra, the colony of the *Goths*, from whom the *Swedes* are descended, had not yet penetrated so far towards the north of *Europe*. Of all the ridiculous fables ever imposed upon a credulous world, that which would make of *Scandinavia* “the storehouse of nations” is the most absurd: it is fitted only for the pages and the readers of such an author as *Sebastian Munster*¹. The first sight which a traveller has of the country is sufficient to remove every doubt upon this subject. Its unbroken forests, and a slowly advancing population, making the first essays of agriculture upon a land where there is not a vestige of any former inhabitants—excepting perhaps in the southern parts of this wild region, where a solitary *Celtic* mound, here and there², marks

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Antiquity of
the *Fahlun*
Mine.

(1) “Howe populous was this Country and others lying aboute it, manye great and wyse men doo wrytyn, as Methodius, Martir, Iordanus, Gothus, and Paulus Diaconus, the which Authours do wryte that this people dyd swarme lyke Bees. And they call these Northe Regions the Storehouse or Garnar of Nations.”—*North's Description of Swedland, Gotland, and Finland, gathered out sundry latyn Authors, but chieflie out of Sebastian Mounster. Imprinted at London, Anno 1561, by John Awdely.*

(2) And of these, no traces exist farther towards the north.

CHAP. IV. marks the sepulchres of a race of men who were never settled in the country, and with whom the *Goths* had no connexion,—afford manifest proofs of the erroneous opinions which have been propagated, and which still prevail, respecting its antient history. There are no writers, says *Vertot*¹, that are either so credulous or partial as those who have published an entire body of the *Swedish* history: if we may give credit to their relations, that kingdom is the most antient monarchy in the world. And he afterwards adds,—without undertaking to decide the celebrated question, whether *Sweden* be the original habitation or only a colony of the antient *Goths*,—it is certain there is no fixed æra, in their annals, until about the middle of the twelfth century. This period commences with the accession of *Eric the Ninth*: all the preceding annals are embellished with fictitious wonders, extracted from old legends or antient songs. The heroes and princes of those remote ages are always represented as giants and magicians. Force was the supreme law; the power and violence of an oppressor entitled him to the respect and esteem of the people; and it was deemed inconsistent with the honour of a prince to marry a princess before he had committed violence upon her person². A fortunate murderer was not only admired as a hero during his life, but adored as a deity after death. In such a state of society,

(1) *Histoire des Révolutions de Suède*, tom. II. p. 252. Paris, 1696.

(2) “Un Prince auroit esté déshonoré qui auroit épousé une Princesse qu’il n’auroit pas ravie.” *Ibid.* p. 255.

society, it is not very probable that the inhabitants of *Dalecarlia* were engaged in mining speculations; or that any work was going on which required the aid of foreign commerce for its support. According to the authors of a late popular account of *Sweden*³, the oldest charter of the mine of *Fahlun* is that of *Magnus Smeek*⁴, in 1347; from which it appears, that anterior documents existed among the archives of the crown. But these writers do not seem to have been aware, that, above a century before the time of *Magnus Smeek*, there was another King of *Sweden*, of the name of *Magnus*, namely *Magnus Ladislås*, renowned in the *Swedish* annals for wiser counsels and for better sway; the same who caused the sovereignty of all the mines in the kingdom to be vested in the crown, and also accorded privileges to those mines, which seem to be the same they have alluded to. A record of the fact is mentioned by *Loccenius*, in his *Antiquities of Sweden*⁵: and *Messenius*, in his learned and exact work,

(3) *Voyage de Deux Français dans le Nord de l'Europe*, tom. II. p. 241. *Paris*, 1796.

(4) Called, by the authors of the work above cited, *Magnus Smek*. He was the most unsteady, weak, voluptuous, and arbitrary monarch that ever wielded the *Swedish* sceptre; elected King of *Sweden*, A.D. 1319, at three years of age; and died in *Norway*, A.D. 1371. According to *Loccenius*, (*Hist. Svecana*, p. 106. *Francof.* 1676,) *Magnus* obtained the surname of *Smeek*, from his being duped by the specious promises of *Waldemar* king of *Denmark*. “*Huic occasione imminens Waldemar, in Scania Magnum amicissimis literis illexit, et blandis verbis promissisque lactatum, unde Magno postea cognomen Smeek adhærebat,*” &c.

(5) “*Vetustas tamen cœptæ effossionis quodammodo colligi potest ex Rescripto MS. Magni Ladilås, regis Sveciæ, Montanis Anno MCCLXIV. Dicti Rescripti pars Latine versa sic habet. Ed quod vestra privilegia et antiqua diplomata, quæ habebatis à nostris majoribus,*

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work¹, which enumerates, in chronological order, all the principal events of *Swedish* history to the beginning of the 17th century, notices the manner in which the sovereignty of the mines had been obtained. How long before that event this mine had been worked, or in what manner and in what age it was originally discovered, cannot now be ascertained². If any credit might be given to the traditions extant concerning it, all the *copper* employed by *Solomon*, in building the Temple at *Jerusalem*, was derived from the *Fahlun* mine.

The situation of the mine is close to the town: there are few sights of the kind which better repay the traveller: he will seldom

majoribus, nuper quum apud vos essemus, in curiâ illorum virorum, qui ea adservare debuissent, perierant, graviter erratis in eo jure, quo fodinæ metallicæ erigendæ ac stabiliendæ erant. Deinde novo privilegio illud firmat.—*Johannis Loccenii Antiquit. Sveo-Goth. p. 82. lib. 2. cap. 17. De regni Sveo-Gothici fodinis metallicis. Francof. & Lips. 1676.*

(1) *Johannis Messenii Scondia Illustrata, tom. II. p. 60. Stockholmæ; Anno Christi, 1700.*

(2) The following extract from the Antiquities of *Loccenius* ought not, however, to be omitted:—

“Certe illud verè affirmari potest, unâ cum religione omnium aliarum rerum copiam, atque adeò ipsam felicitatem ad Gothos Sveonesque pervenisse. Satis constat, tum primùm auri, argenti, ferri, cupri, cæterorumque metallorum fodinas repertas: ut harum rerum copiâ nulli cæterarum regionum cederent, cum antea nullam haberent. (*Vastovius, in præfatione Vitis Aquilonaris, apud Loccenium, Antiq. Sveo-Goth. p. 83.*) Ex hac verò ejus sententiâ ante nccc. circiter annos (quo tempore Christiana religio huc primùm introducta est) inventas primò fuisse metallorum fodinas, statuendum foret. Sed eas antiquiores esse, constat ex *K. Suerris Saga*, ubi hæc exstant verba: ‘*JARNBER ALANDER UNDER SUIA KONG, OC VAR THA EN HEIDIT.*’ h. e. *Tractus aut terri ferri fodinarum Sveoniæ Regi subest, nec tum adhuc ad sacra Christiana conversa erat.* Unde patet jam in paganâ religione ante Christianam in usu certè notitia fuisse; licet sub Christianâ religione magis magisque efflorescere potuerint.” *J. Loccenii Antiquit. Sveo-Gothic. lib. 2. cap. 17. p. 82. Francof. et Lips. 1676.*

seldom find a mine of equal celebrity which, under all the circumstances of depth and magnitude, is so easy of investigation: and perhaps in no part of the world will he meet with superintendants so well informed as those who preside over the works here; at the head of whom is the celebrated *Gahn*, whose acquirements, and the kindness he has always shewn to strangers, have entitled him to respect and consideration in all the Academical Institutions of *Europe*. We had letters of introduction to this gentleman, and therefore made it our first business to inquire for his place of residence, and to wait upon him. The reception which he gave us was of such a nature, that to pass it by without a grateful acknowledgment would be highly reprehensible. Hospitality in a *Swede* is what we may always expect; but the attention paid to strangers by Mr. *Gahn*, especially if their visits had any view to science, was of a more exalted nature. He not only shewed a zeal, as if actuated by a religious duty, to satisfy scientific inquiries; but he did more—he directed them; and himself endeavoured to stimulate the ardour of those with whom he conversed, when he found them engaged in the pursuit of knowledge, by exciting and then gratifying their curiosity; neither regarding the interruptions to which it rendered him liable, nor the fatigue he often encountered in being their guide, and himself descending with them during their examination of the mines. In the *Fahlun* Works, Mr. *Gahn* exercised the office of *Assessor*; under which title his name frequently occurs, in books of travels. The most interesting account of his character and abilities has been given by the celebrated chemist whose work we have before cited;

Assessor
Gahn.

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cited; and whose visit to *Fahlun* was made subsequent to our own¹. Speaking of him, he says: "Perhaps it would not be bestowing too high a compliment upon Mr. *Gahn*, if I were to say, that he possesses the greatest quantity of general information of any man in *Sweden*. Nor are the frankness and affability of his manners inferior to his knowledge. I have seldom met with any person with whom I was more delighted." He was the intimate friend of *Scheele* and of *Bergman*; but his own discoveries have been very remarkable²: among which, the two principal were, 1. The discovery of the constituents of the earth of bones, which he ascertained to consist chiefly of the *phosphate of lime*; and, 2. The reduction of the ore of *manganese* to the metallic state.

Copper-Ore.

Having obtained, from the Master of the Works, permission for our descent into the mine, Mr. *Gahn* appointed his own son to be our guide and companion upon this occasion. Accordingly, we were conducted to an office for the sorting of minerals; before the door of which building we saw two large masses of *pyritous copper* placed, as specimens of the best ore of the mine. The moment we saw them, we recognised the sort of ore dug at *Paris Mountain* in the *Isle of Anglesea*: but all the *European* ores of *copper* are in this respect nearly allied. The ore is almost always in the state

(1) See *Travels in Sweden*, during the Autumn of 1812, by *Thomas Thomson*, M.D.&c. p. 222. *Lond.* 1813.

(2) *Ibid.* p. 223.

state of a *sulphuret*; whether it be found in vertical veins amidst *primary* mountains, or stratified among *secondary* rocks, and accompanied by animal exuviae. The *tertiary* deposit, in which *copper* lies with the remains of vegetable bodies, is perhaps not known in *Europe*; although it constitute the principal, if not the only mode of formation which characterizes the mines of *Asia*. At the sorting-house, we were each accommodated with a suit of miner's clothes, made of black cloth; and immediately proceeded towards the place of descent, which is very carefully guarded. It consists of a small lodge; where two aged miners, Invalids, are stationed as sentinels, to see that no improper persons gain access, to pilfer, as they formerly did, from the chests and cabins of the miners below:—a precaution now rendered doubly necessary, since the mine was set on fire. This event occurred but a few months previous to our arrival. Some men attempting to steal a quantity of the *sulphate of iron*, with which the mine abounds, on being disturbed, fled, leaving their torches burning; by which means combustion took place amongst the timber of the works, which communicated to the *pyrites*; and has continued ever since, in spite of all the endeavours made for its extinction. At this time it was thought that the progress of the fire had been checked; but the mine sent forth sulphureous fumes, like a volcano; and it was greatly to be feared that the conflagration might extend to the lower part of the works, when the mine would inevitably be destroyed. Mr. *Gahn* however surprised us, by stating, that, notwithstanding all the disadvantages consequent upon this

Descent into
the Mine.

Conflagration.

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this fire, if they can succeed in arresting its progress, and keeping it, as it were, under some kind of dominion, very considerable profit would arise from it, in the quantity of the *sulphate of iron* (green vitriol), which may be collected from the roasted *pyrites*. The mode which they have adopted for checking the fire, is by stopping up all the passages where it is found spreading, by means of a double wall; leaving only as much air as may be necessary to support combustion, in those chambers where its continuance may prove advantageous. In this lodge a small fire is kept for the use of the miners, who are here allowed to light their pipes, and to dry their clothes.

Method of
excavating
the Ore.

We began our descent upon a *Saturday*, as early as eight o'clock A.M. Upon this day it is necessary to make the descent at an early hour; because fires are kindled in different parts of the mine every *Saturday*, about noon; which continue burning the whole of *Saturday* night, and all *Sunday*, with a view to soften the rocks, and facilitate their being wrought for the ore. Gunpowder was formerly used for blasting; but this is now applied sparingly: it being the opinion of the most experienced men in *Fahlun*, that a judicious application of the two methods succeeds better than either of them alone: for, as the blasting by gunpowder always leaves a certain number of irregular projections in the rocks, the subsequent process of applying fire to these inequalities tends to soften them, and to expedite the fall of the ore. The fires which are thus kindled every *Saturday*, are under the strictest regulations: the exact quantity of wood that shall be consumed is duly specified, and,

and, moreover, the precise portion of the rocks to which the several fires are to be applied. We were four hours diligently employed in the examination of the principal excavations. To go over the whole of the *Fahlun mine*, would, as Mr. *Gahn* assured us, require a fortnight. Before we endeavour to make the Reader further acquainted with what we saw, it will be therefore proper to give a general description of this vast bed of *copper-ore*, and of the manner in which it has hitherto been excavated.

The mine of *Fahlun* is an enormous crater, shaped like a sugar-loaf, with its point downwards; the same shape having been that of the natural deposit of the *pyritous copper* here found. The base of this enormous conical mass of ore, lying upwards towards the surface, was the first part worked. As the galleries for its excavation were necessarily extensive, and the props for supporting the roofs of the different chambers, consisting often of valuable ore, were of course left as sparingly as possible, it happened, from the avidity and carelessness of the workmen, that there was not enough left to sustain the pressure of the superincumbent matter towards the surface; and consequently, in the year 1666, the whole of the upper part of the mine, that is to say, of the base of the inverted cone, fell in, and gave rise to the open crater we are now describing¹. The sides of this crater being variously coloured by the exhalations from the mine and the action of the air upon its sides, added to the volumes of

Manner in which the ore is found deposited

Accident which caused the present Crater.

(1) See A. of the Vignette to this Chapter.

CHAP. IV. of smoke and vapour rising from the bottom, give it the resemblance of the *Neapolitan solfaterra*: but the depth of the *Fahlun crater* is much more considerable; there is more of vastness in all that belongs to it; and the singular appearance caused by regular staircases, traversing its whole extent, from the lip of this immense bason to its lowermost point at the bottom, renders it altogether a sight in which we may vainly seek for points of similitude, in order to compare it with other works. At the bottom of this crater, at the depth of forty fathoms from the surface, various openings lead to the different levels and places of further descent into the mine; which, according to the notion prevalent among the miners, were originally opened in immemorial ages¹. It would be very curious, certainly, if it were possible,

(1) *Ogerius*, who was also conducted, during his visit to this mine, by the *Gahn* of his day, has left us, in his *Ephemerides*, a lively picture of the impressions made upon his mind by the extraordinary nature of the spectacle. His work, according to *Du Fresnoy*, is rare; but it is not possible to insert the whole even of the racy description he gives of his descent into the *Fahlun mine*: the following extract will however serve to shew the manner in which he introduces it; proving, beyond all doubt, that it was written by an *Ανδρῆς*.

“ Ipse provinciæ Præfectus et præcipui municipales ad fodinam nos duxerunt. Obstupimus profectò, statim atque ad os præcipitii appulimus. O qualis facies, et quali digna tabella! Patet ingens terræ hiatus latissimus, profundissimus, quem in circuitum repagula lignea ambiunt, ne temerè quisquam ad marginem fossæ accedat, aspectuque profunditatis tantæ terreatur, ac corruat. Licet tamen his repagulis innitaris, si oculos in imum demittas, continuo caligent, turbanturque: si illos tandem intenderis, videbis homines euntes redeuntesque ima in fossa; at illi avium, aut potius formicarum speciem, referunt, adeo pusilli apparent. Quocunque convertas oculos, contemplaris res tam miras ex sese, quàm inter se comparatas, ignes, glacies, splendorem, tenebras, permixta omnia: vetus illud esse Chaos diceres, adeo moles illa indigesta est, ac indiscreta: si curiosius advertas, deprehendes illic omnis generis colores æris, ferri, chalcanthi, sive vitrioli,

possible, to ascertain in what period the works were begun; and with what nation the *Swedes* traded with their *copper*, after the mine became productive. Its original discovery is lost in obscurity and fable. The present inhabitants of *Fahlun* relate the old story common to many famous mines, about a buck caught in hunting, whose horns were covered with an ochreous incrustation; and, in support of this, they allege the most prevalent names of parts of the *Fahlun mine*, all having reference to this animal; as *Buck's-hill*; the *Buck's-shaft*; the *Buck's-horns*; the *Buck's-hoof*; &c. But a similar story is told at *Röråås* in *Norway*; and also in other places where there are mines.

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Tradition of
the Miners.

From the small lodge, serving as a sentry, upon the brink of the crater now mentioned, and stationed upon the top of the uppermost flight of stairs, we began our descent into the mine. These stairs are formed by nailing bars of wood across inclined planes, which slope downwards; and are thus so contrived, as to prevent the feet of horses from slipping, in their

vitrioli, sulphuris; PALLET HOC, VIRET ILLUD, RUBESCIT ALIUD, FLAVET ALTERUM: et ut alia Deorum arma, aut insignia in Æoliâ insulâ conflata et procusa sint, HÎC CERTÈ FABRICATUS EST, ASSERVATURQUE IRIDIS ARCUS. Satiabantur avidè hoc spectaculo animi, oculique nostri; cum ecce tibi de repente quidam ex his operariis demittit se per funem, quo lapides, metallici trochleis, rotisque ab imâ fossâ in altum trahuntur: labi illum tam intrepidè, non sine horrore conspeximus: cùmque illi inter labendum pileus excuteretur è capite, cubito illum retinuit, adeo id securè agunt."

"Ergo descendimus in fossam per excisos, abruptosque in rupe gradus, &c. &c. . . . Postquam ad ducentos profunditatis passus descendimus, putavimusque in imo esse, sustulimus in altum oculos, eosque qui superius in margine fossæ erant, quia hominibus esse sciebamur, homines credidimus; cæterùm corvorum, aut cornicum species, nobis videbantur."

Caroli Ogerii Ephemerides, pp. 196, 197, 198. Lutet. Par. 1656.

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Appearance of
the descent.

their passage up and down. The view in descending the platforms is very striking; the whole being open to daylight, and the sides of the great crater being diversified, like those of Vesuvius after some of its eruptions, with a rich contrast of beautiful colours¹. Above the brink of the surrounding precipices are seen immense superstructures of scaffolding, and other timber, impending over the abyss, for the purpose of working the buckets employed in raising the ore; and, dispersed in different parts of the crater, and along the sides of the platforms, appear the little huts and chests of the miners; serving as repositories for their clothes and working implements. When we had reached the bottom, we were met by two of the overseers of the mine, who came with lighted torches to conduct us into the principal level. Having entered into this opening, we found, after proceeding to a short distance from the mouth of it, some labourers who were employed in widening the passage. This was effected by means of gunpowder; and the force of the explosions, for blasting the rocks, shook every thing that was near to us. We afterwards visited many other parts of the mine. Every passage has its peculiar name; the level through which we entered being called *Le bonnet rouge*; another, *The Jacobin*; and a third, *The Club of Hercules*. The last, and deepest point of the work, towards the vertex of the inverted cone, or bed of the ore, they have denominated "*Where now?*" The rest of the

Names of the
different
openings.

(1) See the powerful description of this particular appearance, as given by Ogerius, in the passage already cited from his *Ephemerides*.

the appellations of the different divisions they have named after the Directors and principal officers, the members of the Royal Family of *Sweden*, or after any illustrious character or remarkable event which has occurred in the political world^o. And when the different parcels of ore are raised, they preserve the respective denominations of the parts of the mine whence they were severally taken. Passing into the deeper chambers, we at last arrived at the depth of 170 fathoms from the surface: but there are much deeper excavations; some of which have been carried on to the depth of two hundred fathoms. Here we found the heat very oppressive: the miners, with the exception of their drawers and shoes, were naked at their work. This high temperature, increasing always in the direct proportion of the descent from the surface of the earth, and which may be observed in all mines, has never been satisfactorily explained. In the great mine of *Poldice*, near *Truro* in *Cornwall*, which has been worked, in *granite*, to the depth of 300 fathoms, the miners, as at *Fahlun*, carry on their labours naked; and the heat is so great at the bottom of the mine, notwithstanding the

Increase of
temperature
in the lower
chambers.

(2) It may amuse the Reader to be informed what some of these names are; because they afford a sort of insight into the popular topics of interest among the miners of *Fahlun* at different periods. As specimens, we shall insert the following names of different parts of the mine, in addition to those already given:

Gustavus Adolphus.	The Mountain Lily.
The Frigate.	The Beaver.
Mars.	Count Jacob.
The Victory.	The Wife.
The Matron.	The Guitar.
The Repose.	The Bishop.
Terra Nova	The Brazen Serpent; &c. &c.

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the accumulating water, that it may be sensibly felt by any person placing his hand against the sides of the rock, as the author himself experienced. The heat of the *Fahlun mine* is so great, that it becomes intolerable to a stranger who has not undergone the proper degree of *seasoning* which enables a miner to sustain it. But then there are causes which tend greatly to increase the natural temperature: prodigious fires are frequently kindled, and at a very considerable depth in the mine, for the purpose of softening the rocks previously to the application of gunpowder: add to this, the terrible combustion which has taken place in the mine, threatening its destruction. We saw the walls which they had constructed for opposing its progress; and the overseers, by opening some double doors placed in these walls, gave us a transient view of the fire itself, that was at this time menacing with its ravages the whole of these antient and valuable works. The sight we had of it was short; because the fumes of sulphur were so powerful, that we found it impossible to remain many seconds within the apertures¹.

View of the
bed of fire.

By

(1) The mode which the author adopted, and which enabled him to remain long enough to obtain a view of the combustion as it was then going on, was the same which he had been formerly taught by the guides of *Mount Vesuvius*, as a means by which a person may brave the gaseous exhalations of the crater of that volcano, and perhaps of any mephitic vapour; namely, that of covering the mouth and nostrils with a piece of cloth, such as the flap of a coat may afford, and inhaling the air, necessary for breathing, through its texture. In this manner, respiration may be carried on, for a short time, where any one would be otherwise liable to suffocation, and even in the midst of the most sulphureous exhalations: and as an attention to this simple precaution may be the means of saving the lives of those who are accidentally exposed to such situations of danger from suffocating or deleterious fumes, its introduction will not be deemed superfluous.

By rushing in for an instant, we saw enough to convince us what the fate of the mine would be, if the devouring element were not thus pent, and held in subjection by the smothering nature of its own exhalations. The moment any air was admitted from the doors, and the vapours were thereby partially dispersed, whole beds of pyritous matter appeared in a state of ignition; the fire itself becoming visible: but our torches were extinguished almost instantaneously, and it was only by holding a piece of cloth before the mouth and nostrils that we could venture beyond the second door. If this conflagration should extend to a greater depth, the mine would be destroyed by the fumes alone; as it would become impossible to proceed with the works in the midst of its exhalations. A miner, lately, in advancing unguardedly and with too much precipitation towards the ignited matter, to ascertain the extent of it, fell dead; being suffocated, as was the Elder *Pliny*, and in a similar way. It is this part of the mine, in which we approached nearest to the bed of burning *pyrites*, that bears the name of "*the Club of Hercules*." At the depth of 170 fathoms we were conducted into a large open chamber, or cave, in which fifteen naked miners were actively engaged, carrying on their labours. The heat and suffocating nature of the fumes in this place were so powerful, that although the mine extends thirty fathoms lower, we found it necessary to begin our re-ascent, being very much exhausted.

In the deepest recesses of the mine there are stables for horses, in which these animals are kept in total darkness, and for months together, without ever seeing the sun's light.

Subterraneous
Stables.

Near

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Council-
chamber.

Near the stables are also repositories for their fodder. At the lowest point of our descent, or near to it, we were shewn the *Council-chamber*, as it is called, where the officers belonging to the mine, the engineers, and others engaged in the works, hold their assemblies, and take their refreshments, when they descend to inspect the operations. This chamber is a circular cave, wainscotted, and furnished with a table and benches. An iron chandelier hangs from the roof, over the table. Gloomy as this cavern appears, many of the *Swedish* monarchs have sate within it. An old custom has ordained, that every *Swedish* king should once, at least, during his reign, pay a visit to *Fahlun*, and descend into this mine: consequently their names appear inscribed upon the sides of the chamber. We noticed also the names of other distinguished individuals, either carved or written, both of natives and foreigners¹, who had honoured this apartment with their presence, and left a memorial of their coming. After we quitted the *Council-chamber*, we visited the stables, in which several horses were then stationed, and quietly enjoying their fodder, at the depth of 160 fathoms from their natural pastures. They seemed to be in as good condition, and as cheerful, although literally buried alive, as any of those which are kept above ground. Their loud neighing, echoing along the arched caverns, as we ascended from the lower parts of the mine, proved that

habit

(1) Among others, we read the name of *Joseph Acerbi*, from *Castelgoffredo* in *Italy*; and his companion, *Signor Bernardo Bellotti*, of *Brescia*.

habit had quite reconciled them to their gloomy abode. Some of them were fat and sleek : and certainly the temperature of the place where they are kept is as high as the most fastidious groom would require for giving to his steeds a shining coat.

Among the other curiosities of the *Fahlun mine*, not the least curious are the stalactites of green vitriol, the *sulphate of iron*, which, in all parts of the works, may be observed in greater or less abundance, hanging either from the arched roofs of the levels, which are constructed in many places with brick-work, or upon the wooden ducts for carrying off the water. This is the substance which the workmen sometimes seek to convey away by stealth : in attempting which, as before mentioned, the mine was carelessly set on fire. It appears either crystallized, or as an incrustation, or in other stalactite forms, sometimes as big as a man's arm*.

Stalactites of
Green Vitriol.

The whole of this *vitriol*, and all the *vitriolic water* of the mine, are the property of Assessor *Gahn*; and, of course, the removal of these stalactites, without his orders, is prohibited. The manner in which they are produced may be briefly stated : although it be now well known to all chemical readers ; a similar process for the precipitation of *copper* constituting a very profitable part of the works in our own mines, especially at *Paris Mountain* in the *Isle of Anglesea*. As in that mine, the water of the mine at *Fahlun* is impregnated with *sulphuric acid*, holding *copper* in solution : but

(2) Specimens of it were brought away, which are still in the author's possession.

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but in its passage through the works, whenever it comes into contact with *iron*, for which the *sulphuric acid* has a greater affinity, a portion of the *iron* is dissolved, and *copper* consequently is precipitated. The liquid *sulphate of iron* being then exposed to evaporation, is gradually concentrated; and either crystallizes, or appears in beautiful transparent stalactites in different parts of the mine. But the product of this deposit is trifling, compared with the quantity of the same *salt* which is procured from the vitriol works on the outside of the mine; to which the water of the mine is conveyed by pumps, as we shall afterwards describe. The working of pumps, in the profoundest cavities, at such remote distances from the power which maintains their action, is, in all mines, one of the chief objects of wonder to a stranger who descends merely to gratify his curiosity, and is unaccustomed to the view of mechanical contrivances, by which a moving force, so extraordinary in its nature, may be communicated. But in this part of the works, the *Swedes* are far behind the *English*: the vast powers of the steam-engine was as yet unknown to them; nothing of the kind having been introduced into their mining establishments.

Pumps.

Fahlun mine is divided into twelve hundred different shares, or, as they are here called, "*Actions*." The instant any ore is raised, a division takes place: but to give a full account of the manner in which the division is made, the mode also of defraying the expenses of the mine, together with all its bye-laws and regulations, would extend the description far beyond the limits prescribed by a volume of travels. Every thing is conducted upon the best and most effectual

Mode of dividing the Ore.

effectual plans. A number of shares may belong to the same individual; but their value varies so extremely, that it is not possible to form an average of the yearly value of any one of them. For example; the net profit of a single share at the time of our visit, estimated for the whole year, was not more than sixty rix-dollars; but there have been times when the annual value of a share has doubled that sum. It is not every possessor of shares or "*actions*" that is allowed to collect his own portion of the ore, or to estimate its value. There are a certain number of persons who are privileged: and these are called *Bergsmän*; literally signifying "*Mountaineers*," but perhaps more properly translated *Mineralists*, or *Miners*'. Here, however, it has a higher import. The *Bergsman* must become qualified for his office, and for the privileges he enjoys: first, by having passed the ordeal of a regular examination; secondly, by the possession of a certain portion of landed property. He must, moreover, have other qualifications, before he can be entitled to the rank of *Bergsman*. Those proprietors who are not *Bergsmän* are obliged to let their shares to persons who are of this class, for a certain sum annually. Of the twelve hundred sharers, sixty only are *Bergsmän*; and the whole aggregate of twelve hundred shares is subdivided into seventy-five lots, for the convenience of dividing the ore; each lot of the seventy-five containing sixteen

Value of the
Shares.

Bergsmen.

(1) In the *Dictionarium Anglo-Svethico Latinum* of Serenius, printed at Hamburgh in 1734, a mine is called *grufwa*; a mineral, *maln*; and a mineralist, *bergsman*. In the same work, a mountain is expressed by *brgg*.

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Valuation of
the Lots.

sixteen shares¹. When, therefore, any of the ore is raised, it is divided into twelve portions: and as it is necessary that four of these twelve portions should go to defray the expenses of the mine, the remaining eight portions allow for the sixteen shares, one half of each portion for every share. The next business is, to estimate the value of the ore; which is done in the following manner. The $\frac{4}{12}$ ths which have been set aside for defraying the expenses of the mine are separately put up to auction. At these auctions, nobody but *Bergsmän* is allowed to bid; and whatever the first lot sells for, is the value of the rest of the $\frac{8}{12}$ ths. But should it so happen, that an inexperienced bidder appreciates too highly the first portion of the $\frac{4}{12}$ ths, every sharer possessing $\frac{1}{16}$ th may compel that person to buy his share likewise at the same price. In the public office belonging to the mine, a regular account is kept of every *Bergsman's* profits, and of the deductions to which they have been liable; and this fair statement is daily open to public inspection. Of the twelve hundred shares, into which the whole produce of the *Fahlun* mine is divided, three-fourths are distributed in the town of *Fahlun* and in the province of *Dalecarlia*. The remaining one-fourth belongs to proprietors who are dispersed in the kingdom at large, and in other countries; insomuch, that there are persons residing in *America* who possess shares in this mine. The Company pay one-eighth of the whole produce to the king. In the period of its greatest prosperity, which

(1) $75 \times 16 + 75 = 1200$.

which was about the year 1651, the produce amounted to 20,000 *schippunds*² in a single year; but since that time it has constantly diminished, and now yields only from three to four thousand *schippunds* annually. As the produce of the mine has been diminished, so also has the number of workmen been lessened: the number of the miners now does not exceed four hundred persons; and if we include all those who are employed in the foundries and other works, the number will not exceed one thousand.

From the description already given of the form of this bed of ore³, as well as in surveying the products of the works during the last century, it must be evident that the *Fahlun mine* approaches to its termination. They have already reached the lowest point of the inverted cone; and have penetrated deeper than the ore, under a rather ludicrous notion, founded upon some visionary speculation, that if they persevere perpendicularly from the vertex, they will at last reach the top of another conical mass of ore, situate in an opposite direction; and which gradually swelling out towards its base, instead of diminishing from it, as in the present instance, will amply repay them for all their trouble. These hopes appear to be altogether illusory. However,

Present state
of the *Fahlun*
Mine.

much

(2) The *schippund* of *Stralsund* equals twenty *lispund*, or 280 pounds. According to Dr. Thomson, (*Trav. in Sweden*, p. 221,) in the year 1600, the *Mine of Fahlun* yielded eight millions of pounds of *copper*. The same author also informs us (p. 222), that as much *copper* is obtained from the mines of *Great Britain* alone, as from all the rest of *Europe*.

(3) See the Vignette to this Chapter.

CHAP. IV. much remains to be done, before the mine, even in its present state, can be exhausted. In working a mass of such magnitude, quantities of ore have been left in the sides and along the cavities of the mine: much, therefore, yet remains to be removed. The only difficulty will be, how to accomplish its removal, without causing a repetition of the catastrophe which gave birth to the present crater'. During the year before our arrival, a considerable portion of one of the sides gave way, and fell down, with a prodigious noise. This accident occurred upon a *Sunday*, when the workmen were absent from the mine; and, providentially, no lives were lost.

After a subterraneous expedition of four hours, we returned again to the upper regions and to the light of the day; and were conducted, as before, to the office, where we changed our clothes. Afterwards, we went to the house of an officer who is called the *Mine Mechanician*, to see some drawings and plans of the works². We then visited the *Pump-room*, and saw the machinery for draining the mine: it is all worked by water-wheels; yet there is no place better suited for the use of steam-engines. Mr. *Gahn* told us they had recently discovered a bed of *pit-coal*, but that they made no use of it. Formerly, when the mine was richer, they made no use of the *iron pyrites*, which is dug in considerable quantity; but

now

Works above
ground.

(1) See A, of the Vignette to this Chapter.

(2) Here we procured those Designs which have been engraved for this Volume; with the exception of the View by *Martin*, which was procured in *Stockholm*.

now a work is established for roasting this mineral, and manufacturing *red-ochre* as a pigment. In this process, however, they are not so economical as they might be: the *sulphur*, which might be collected, is allowed to escape³. The process for the peroxidation of the *iron* is extremely simple: it is obtained from heaps of *decomposed sulphurets*, or, as they are commonly called, *pyrites*, which have been long exposed to the action of the atmosphere. Of these a *lixivium* is made; in which a yellow mud subsiding, affords the ochre, which is submitted to the action of heat in a long furnace; so contrived, as that the flame, drawn out to considerable length, may act upon the *iron oxide*, and thus convert it into red ochre.

At some distance from the mouth of the mine, an immense apparatus, visible over all the environs of *Fahlun*, for the manufacture of copperas or green vitriol (*sulphate of iron*), is seen making a conspicuous figure among the other prodigious works of the place. This machine was constructed by Assessor *Gahn*, to whom all the *vitriolic water* of the mine, after the precipitation of the *copper*, exclusively belongs. The method is said to have been originally devised in *Germany*, for the concentration of weak salt-brines⁴. The principle of it is very simple, and shall be fully explained; although similar works, and perhaps upon a larger scale, may be found in

Vitriol Ma-
nufactory.

(3) Assessor *Gahn* has since devised a very simple apparatus for obtaining the *sulphur*. See *Thomson's Travels in Sweden*, p. 219.

(4) *Ibid.*

CHAP. IV. in our own country. The vast profit derived from the chemical changes which the water of the mine is made to undergo, after it has been drained by means of pumps from the works, has been owing entirely to the advancement which chemistry has made of late years. First, *copper* is abundantly precipitated from it by means of *iron*: and this *wash-copper*, as it is called, of the *Fahlun mine*, has an appearance so extraordinary, that when it was shewn to the late Professor *Tennant*, he would not credit the fact of its being merely a precipitate of the native metal by means of *iron*. It consists of spheroidal particles of *native copper*, of such perfect forms, that they seem like so many minute beads of metal which have undergone fusion. After the *copper* has been thus precipitated, the water, holding *sulphate of iron* in solution, is conveyed to the reservoir for the manufacture of *vitriol*. The base of the immense apparatus used for this operation is a wooden stage or platform, shaped like the roof of a house, sloping, on either side, towards wooden troughs, like those used to catch rain-water from the houses in *England*. Above this platform a double wooden rack, resembling those used for drying the harvest in *Norway* and *Sweden*¹, is made to extend the whole length of the sloping platform; which is covered with birch-boughs, thickly interwoven, and hanging over one another from the top to the bottom, so that a person walking between the two racks has a lofty wall of wicker-work on either side. The water

Remarkable
form of Pre-
cipitated
Copper.

Process for
concentrating
the Lye.

is

(1) See Part III. of these Travels, SCANDINAVIA, Sect. I. p. 169.

is pumped into a trough upon the top of these racks, extending the whole length of them; and out of which it afterwards falls into a number of lesser channels, whose sides are notched, so as to let the water drop gently, in a continual shower, upon the wicker boughs. As it thus falls, presenting such a multiplicity of surfaces to the action of the atmosphere, it becomes of course liable to considerable evaporation; and the salt which it contains becomes, to a certain degree, concentrated before it reaches the bottom. An incrustation of *sulphate of lime* also forms upon the boughs, which thus become covered with *gypsum*, after the manner in which *osteocolla* is formed by the *carbonate of lime* near *Tivoli* and *Terni* in *Italy*. The concentrated fluid, containing *sulphate of iron*, at length reaches the bottom of the wicker-work, where it falls upon the sloping platform, which carries it off on either side into troughs, whence it is conveyed into a cistern: it is then raised by pumps again to the top of the machine; the same operation being repeated seven times,—the quantity of fluid always diminishing during every descent over the boughs; until at length it is in a fit state for the process of *crystallization*, which takes place in cisterns prepared for the purpose; but it is further accelerated by the last process, which consists in boiling the fluid, when it becomes so highly concentrated, that by placing rods about two feet in length into the liquor, they become studded with large and transparent green crystals of the *sulphate of iron*, which are then collected into barrels for exportation, and chiefly sent into *Russia*; as almost all the other markets in *Europe* are supplied with this commodity

Subsequent
crystallization
of the salt.

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from *England*, at a lower rate, and of a better quality. During the last process of boiling the liquor, a small portion of *copper* is again precipitated, notwithstanding the precipitation of the metal which had been previously effected by means of *iron*, which is the perquisite of the Assessor; who always, as proprietor of the *vitriol-works*, obtains annually a small quantity of *wash-copper* from this manufacture, however carefully the process for the Company's precipitation of *wash-copper* may have been conducted.

Town of
Fahlun.

Fahlun is a dirty town; and, except in the art of mining, is at least two centuries behind the rest of *Europe* in refinement. The inns are beyond description filthy; and the *Table d'Hôte* abominable. We dined there but once: the soup was full of hairs; and the smell of the meat was so offensive, that the guests were driven from table. The houses of the Assessors, and other officers of the mine, are, however, neat, and their owners polite and hospitable. We experienced the truth of this, in the highest degree, in the attentions and kindness shewn to us by Assessor *Gahn* and his son. The atmosphere of the town is almost intolerable to a stranger; yet we were assured by the inhabitants that it is wholesome, and that the people of the place live to a very advanced age;—a statement that we could not easily credit, as there appeared to us hardly a single individual who could refrain from coughing and spitting; and the effect of the air of this place was felt by us very sensibly for some days after we left it. In fact, it is not only sulphureous fumes that are inhaled in the neighbourhood of the *Fahlun mine*; the exhalations are almost as various as the products of the mine; and were it not for the convincing

convincing proofs afforded by Assessor *Gahn*, who obtained *copper*, by analysis, from the beams of the houses in *Fahlun*, a traveller might be suspected of exaggeration who should affirm that the timbers of the buildings here, in the course of thirty years, are worth working for the quantity of this metal which they contain. One might almost fancy that the inhabitants, owing to their *copper-coloured* countenances, had become, in a certain degree, themselves *cupreous*; for they may be considered as actually eating, drinking, and breathing *copper*. They have *copper* above, below, and on every side of them; and smoking heaps of *iron pyrites* impregnate every gale with their suffocating vapours; as if the curses denounced against the disobedient *Israelites* had here been made the means of industry, and the instruments of wealth and happiness:—"THY HEAVEN THAT IS OVER THY HEAD SHALL BE BRASS, AND THE EARTH THAT IS UNDER THEE SHALL BE IRON. THE LORD SHALL MAKE THE RAIN OF THY LAND POWDER AND DUST: FROM HEAVEN SHALL IT COME DOWN UPON THEE."

CHAP. IV.

Wood im-
pregnated
with Copper.

Close to the great crater of the mine there is an enormous wooden image of a horse, elevated twelve or fifteen feet from the ground. Upon this image the miners who have been guilty of misconduct are placed, by way of punishment: and hence, perhaps, originated the old adage among our ancestors, which contains a caution against "*riding the great horse*." Besides *copper* and *vitriol*, the mine of *Fahlun* produces, in small quantities, both *silver* and *gold*. Its other minerals are many of them peculiar to the spot. We collected several; and a list is subjoined,

Punishment
of "Riding
the Great
Horse."

CHAP. IV. subjoined, for the advantage of other travellers, of all the substances for which this mine and its neighbourhood are remarkable'.
Public Buildings.

Fahlun contains six thousand inhabitants. It has several public buildings; and among these the following may be mentioned as the principal:—

I. THE TOWN HALL.

II. TWO CHURCHES.—One for the inhabitants of the town, and the other for the parish at large. The town church is covered with *copper*: but a more improper material can hardly be used; for the *sulphuric acid gas*, with which the air is powerfully impregnated, is rapidly dissolving this *copper* covering. The same thing happened at the parish church, where *copper* had also been employed for the roof: it was

SO

-
- (1) 1. Dodecahedral crystals of garnet. *Engeström* says, "*Plus gros que le poing*:" but we obtained specimens that are double the size he mentions.
2. Octahedral crystals of magnetic iron-oxide.
3. Massive loadstone.
4. Native sulphate of iron; blue, green, and white.
5. Sulphuret of copper in primary crystals.
6. Precipitated native copper in spherical particles.
7. Argentiferous and auriferous sulphuret of lead, crystallized.
8. Pot-stone.
9. Mineral pitch.
10. Amianthus.
11. Laminary sulphuret of zinc.
12. Automalite, in octahedral crystals.
13. *Fahlunite*, crystallized in hexahedral prisms.
14. *Pyrophysalite*, a curious variety of *topaz*.
15. *Gadolinite*.
16. *Leelite*.

In this list it has not been deemed necessary to specify all the varieties of the common *sulphurets of copper and iron*. They are of course abundant.

so speedily corroded, that its removal became necessary, and the copper was sold. CHAP. IV.

III. THE FREE SCHOOL.—This is open to all the children of the inhabitants. It contained, at this time, one hundred and thirty boys. These children are instructed in the *Hebrew*, *Greek*, and *Latin* languages: they are also taught history, geography, writing, and arithmetic. The mathematics are not taught; because from this school the children generally proceed to the *Gymnasium* at *Westerås*; whence they are afterwards removed to *Upsal*, to finish their education.

IV. THE LAZARETTO, or Hospital for wounded and invalid miners. This building, with several other public edifices, is situate near the mouth of the mine.

V. THE PUBLIC GRANARY.

About a mile and a quarter from *Fahlun* is *Gryksbo* Paper-manufactory. This work was begun in 1740: it affords employment to one master, six labourers, and four boys. There is also a cloth manufactory, under the direction of the same proprietor.

The geological structure of *Dalecarlia* has been described by *Hisinger*; whose imperfect and unsatisfactory account of it was compared by Professor *Thomson* with his own accurate and personal observations upon the spot². The inference which the latter was thereby enabled to deduce, was this;—that the basis of *Dalecarlia* consists of primitive rocks; but that

Geological
features of
Dalecarlia.

(2) *Thomson's Trav. in Sweden*, p. 215. *Lond.* 1813.

CHAP. IV. that the greater part of the surface consists of *floetz* rocks, especially sandstone and limestone, containing the usual organic remains which distinguish *floetz limestone*. The porphyry, which sometimes alternates with these rocks, belongs also to the *floetz* formation¹. The whole surface of the plain on which the *mine* is situate, is thick strewed with immense boulders of *granite*, *quartz*, *feldspar*, *hornblende*, and *chlorite-slate*; but not a single rock is to be seen *in situ* in the whole plain, except two immense pyramids of *quartz* lying in the excavation at the great opening of the mine. The rock, however, which, after a good deal of laborious research, Professor *Thomson* found to environ *Fahlun*, is a particular kind of *feldspar*, without *quartz* or *mica*, traversed by veins of *hornblende*, six feet in breadth². He also observed that the rocks on the east side of the *mine*, at the distance of some miles, are *gneiss*; and, from the minerals which accompany the *copper-ore*, such as *actinolite*, *tremolite*, *chlorite*, and from other circumstances, he concluded that the mine follows a series of *veins* in *mica-slate*, the *vein-stones* appearing to him to consist chiefly of *quartz*³. In deference to his authority, it has been thought right to insert his observations. To us the appearance, as far as relates to the position of the ore, was somewhat different: it seemed to be deposited in detached *beds*, rather than in *veins*; as at *Paris Mountain* in *Anglesea*:

(1) *Thomson's Trav. in Sweden*, p.215. Lond. 1813.

(2) *Ibid.* p.220.

(3) *Ibid.*

Anglesea: and hence the spacious cavities of the chambers in which the ore is worked, resembling rather the caverns of a *salt-mine*, than the narrow galleries and passages worked in mines where *copper-ore* occurs in veins.

We left *Fahlun* on *Sunday, November 10*, for *Såla*; and in the evening reached the small town of *Säter*, remarkable only for the cataracts near which it is situate. At a poor and small inn in this place they demanded the extravagant price of seven rix-dollars and a half for our night's lodging. The master of the house brought us a few minerals from the neighbouring mines, which we bought of him. The valuable *iron-mine* of *Bispberg* is at a small distance from *Säter*: it produces a rich granular and very friable *magnetic iron-oxide*. In the same mine is also found *molybdena*. There are also other mines in the neighbourhood of *Säter*⁴; as one of *silver* and *copper* in the parish of *Skedvi*, which produces a small quantity of *native silver*; distant about six *English* miles: also the *iron-mines* of *Garpenberg*⁵ and *Grängesberg*⁶, which are more remote.

Mines in its
Neighbour-
hood.

Leaving

(4) A deserted mine, called *Silberberg*, near *Säter*, now inundated with water, was worked with great success, in the reign of *Queen Margaret*, for the *silver* found there. The ore in the eastern part of the mine contained from 28 to 30 grains of *gold* for every pound of *silver*. If the pits could be drained, this mine might again prove very profitable.

(5) At *Garpenberg*, the minerals consist of varieties of *sulphuretted copper*; *sulphuret of lead*; *sulphuret of zinc*; *fluat of lime*; *pot-stone*, containing *garnets*; *actinote*; *quartz*, *mica*, &c.

(6) At *Grängesberg* may be had the following minerals:

1. Black massive *magnetic iron-oxide*.
2. Granular ditto.

3. Micaceous

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Leaving *Säter* the next day, we set out for *Avestad*, where the *copper* of the *Fahlun* mine is smelted. The axle of our carriage had been broken; and being obliged to leave it behind, under custody of our *Swedish* interpreter, we proceeded from *Säter* in hired carts. After we had left this dull and dirty town, we saw in the forest the bodies of some criminals exposed upon wheels near the road, after the manner of the country, as represented in a former volume². Our first stage was to *Grådö*, by *Hedmora*. Corn, at this time (*Nov.* 11), was yet standing in the fields: the country appeared to be much cultivated, and very populous. *Hedmora* is a dirty village, but beautiful in its situation, upon the side of the *Dal*, which here spreads out its waters so as to resemble a fine lake. Several houses are stationed upon little sand-banks in the midst of the water. We crossed the river near *Grådö*, by a floating-bridge two hundred and eighty yards in length; not supported, like the floating-bridges in *Germany*, upon boats, but solely by the trunks of trees lashed together. Here, while we were changing horses,

Curious
Floating-
Bridge.

-
3. Micaceous *iron-oxide*, of various beautiful hues; blue, green, and yellow.
 4. Octahedral crystals of *iron-oxide*, imbedded in massive *magnetic iron-ore*.
 5. *Mineral pitch*.
 6. *Comolite*, or *pot-stone*.
 7. Hexagonal crystals of *lime-spar*, associated with *quartz* crystals.
 8. *Feldspar* in *magnetic iron-oxide*.
 9. *Amianthus*.
 10. Decomposed *pyroxene*, commonly called "*green earth*."
 11. *Quartz*, *mica*, *calcareous spar*, &c. &c.

(7) See Part III. Sect. I. p. 510.

horses, we heard the sound of musical instruments, as if a band were approaching; and presently two carts, bearing the performers, and filled with other men and women, decorated with ribbands and a variety of gaudy trinkets, entered the yard of the inn. The appearance of these merry-makers was most grotesque. Each cart was conducted by a single horse, upon which sate the driver, more than "half-seas over," playing upon a fiddle, the most common musical instrument of *Norway* and *Sweden*. The carts were crammed with boors of both sexes, having their hats and clothes bedizened with nuptial favours, who, with the most ludicrous grimaces, some fiddling, others singing, were endeavouring to express their rude mirth by all sorts of gestures and noises. They had been to a wedding, celebrated at a great distance from *Grådö*, the day before, *Sunday*. We asked them to dance; and they consented, upon the condition of our treating each of them with a dram of their favourite beverage, *Swedish* brandy flavoured with aniseed. The whole party then prepared to exhibit their agility; and we expected to be gratified with a sight of the curious old provincial dance of the *Dalecarlians*. But they began with *Waltzes*; and after swinging each other in whirls, with a degree of violence that made an approach rather dangerous, ended in the graver measures and attitudes of the *Minuet*, which we found much better suited to the sort of doubtful equilibrium maintained by most of them: with the *Minuets* the dance ended. Of such a nature were the scenes that afforded to some of the best masters of the *Flemish* school subjects for their pictures; nor were the objects very dissimilar which

CHAP. IV.

Annual
Return of
Dalecarlian
Peasants.

called from the pen of our matchless *Goldsmith* one of the most pleasing expressions of his humanity and benevolence¹.

Soon after leaving *Grådö*, the country was again covered by forests, and our views bounded by the trees. In these woods we met several female *Dalecarlian* peasants, returning from their annual summer excursions, into the south of *Sweden*, for employment; but in their winter clothing, made of sheep's fleeces, with swathings of white linen round the head. We passed another floating-bridge about a quarter of a mile from *Avestad*, which was literally covered by *Dalarne* peasants, returning, as before mentioned, to pass the winter-season in their own country. The dress of the men is the same as it was in the time of *Gustavus Vasa*;—a suit of what our *English* wags would call *dittos*, like the dress worn by Quakers; made wholly of white woollen;—in which they appear clad from head to foot; a leathern belt around their waists, and, upon their heads, low broad-brimmed hats.

Avestad.

Besides the smelting-works for the *Fahlun* copper-ore, at *Avestad*, here there is also a mint for the copper coinage of *Sweden*, some iron-foundries, and other works. The town is situate close to some striking cataracts of the River *Dal*, which at this season of the year were truly tremendous; not from the height of the fall of water; for this is comparatively nothing; but owing to the prodigious force and fury with

(1) "The poorer the guest, the better pleased he ever is with being treated: and as some men gaze with admiration at the colours of a tulip, or the wing of a butterfly, so I was by nature an admirer of happy human faces." *Vicar of Wakefield*, Ch. I.

with which the torrent was impelled ; menacing with devastation and ruin every thing in its way. The works belonging to this place exhibit nothing which merits a very particular description ; nor are they worth a traveller's notice, unless he be curious to see the condition of the arts in a rude and unimproved state. The iron forges are such as were used in *England* some centuries ago ; when a single hammer, moved by an overshot-wheel, constituted the only machinery used in our iron-works. The copper, of course, requires a more elaborate process ; and here undergoes the several operations so well known in our country, by which the metal is extracted from its ore, and rendered fit for the purposes of the mint. But in all this the *Swedes* are far behind *Great Britain*². The die, for example, is effected entirely by manual labour, without any aid of machinery : it is impressed by a blow given with a sledge-hammer ; a boy being stationed

(2) This opinion is perhaps at variance with the accounts given of the method of smelting *copper* in *Sweden* by other writers : it is here stated as the author entered it into his Journal, at the time, and upon the spot. In *Great Britain* alone, as much *copper* is obtained from its mines as from all the rest of *Europe* put together ; and more *iron* is raised, in one year, in the single principality of *Wales*, than in the whole kingdom of *Sweden*. But the *copper-mine* of *Fahlun* is the property of many individuals ; and there are various methods used in the operation of smelting the ore, as best suited to the circumstances of the different smelting-houses. Dr. Thomson considered the *Swedish* process as "very simple and economical, and as having the advantage over the methods employed to reduce the same kind of *copper-ore* in *Anglesey*." (See *Trav. in Sweden*, p. 222.) The ore is first roasted, for the evaporation of the *sulphur* ; then mixed with *charcoal*, and melted in a blast furnace. The produce of this furnace is afterwards roasted four or five times successively ; then again melted, and the *scoriæ* separated. Afterwards, it once more undergoes fusion, and is cast into bars. (*Ibid.*)

CHAP. IV. stationed at the work, to shift the coin, and supply the unstamped pieces of copper.

Character of
the *Swedish*
Peasants.

We were comfortably lodged at *Avestad*; the cleanly accommodations of the house, and the obliging behaviour of its owners, being alike praise-worthy: and when, on the following morning, we called for our bill, they said they had no demand to make; we might give them whatever little remuneration we thought proper. As the same circumstance often happened to us during our travels in *Sweden*, we have thought it right to mention it. Instances of exorbitant charges may sometimes occur; we had recently experienced an example of this nature in the behaviour of the persons who kept the small inn at *Säter*; but such cases are not common in *Sweden*, especially in those parts of the country north of *Stockholm*; neither is it the characteristic of a *Swede* to conduct himself with dishonesty in his dealings with strangers. At the same time, it is not intended to be maintained that rogues and thieves are never met with in this country, as in all others. Highway robberies have sometimes been committed; and we shall soon have occasion to notice proofs of this, which occurred in our journey to *Sala*: but such events are exceedingly rare, and may have been committed by foreigners employed among the multiplicity of persons engaged for labour in a mining district. Upon the whole, it is very different from what happens in *Russia*, where a stranger is obliged to be upon his guard against every one he meets, of whatsoever rank or condition; and where "theft" may be considered as a sort of standing order of the day.

Upon

Broddebo.

Custom in
passing a
Robber's
Grave.

Upon the 12th of *November*, leaving *Avestad*¹, in our first stage to *Broddebo* we passed the boundary between *Dalecarlia* and *Westmania* or *Westmanland*. Here, in the forest, by the road side, we observed several heaps made with sticks and stones; upon which the natives, as they pass, cast either a stone, or a little earth, or the bough of a tree; deeming it an uncharitable act to omit this tribute, in their journeys to and fro. As this custom appeared closely allied to the pious practice in the Highlands of *Scotland*, of casting a stone upon the *cairn* of a deceased person, we, of course, concluded that these heaps were places of sepulture; which was so far correct, but they were not described to us as graves of very antient date. The peasants who accompanied us believed them to contain the bodies of banditti, who, according to their account, formerly plundered the merchants in this forest, when the *copper-ore* used to be carried, upon the backs of horses, from *Fahlun* to *Westerås*. As the whole band of robbers was gradually destroyed, so the individuals composing it were severally buried, where they fell, by the side of the public way. This is the tradition which the present inhabitants have concerning these heaps; not to call them *barrows*, because they have neither the magnitude nor the appearance of an antient *Celtic* mound. If they may be compared to any *tumuli* of antiquity, they rather resemble those heaps which the *Romans* raised by the side of their highways,

(1) At a quarter of a *Swedish* mile from *Avestad* are the brass-works of *Bjurfors*, which we did not stop to examine.

CHAP. IV. highways, as marks of distance. A little sketch which we made upon the spot will serve to give an idea of their appearance, and the manner in which they occur in the route.



We had a new proof of the surprising superiority of the public roads in *Sweden*, soon after we left *Broddebo*; a beautiful highway, as fine as the best kept gravel-walks in any nobleman's grounds, having been actually constructed through the waters of a lake. It was about four o'clock, P.M. when we arrived at *Sala*. The inn was full, but we hired lodgings in an adjoining house, and immediately set out for the famous *silver mines*, which are distant about an *English* mile west of the town. At this late hour, a descent into them was described to us as rather hazardous; but our curiosity got the better of our fears, and we reasonably concluded that the want of day-light could be no serious obstacle in a subterraneous excursion. These mines have been so long worked, that there is no record of the time in which

Sala.

Mine of
Salberg.

which they were first opened. Every thing relating to the geological position of the great bed of ore has been most accurately and scientifically described by Professor *Thomson*¹: it lies in a vein of *primitive limestone*, about half a mile in breadth, which occurs between *granite* and *gneiss*. In this vein lies the whole of the *Sala* excavations. The limestone itself is granular, with a shade of green, and possesses a good deal of beauty². It is the common stone employed at *Sala* for building the walls of enclosures. The veins containing the *silver* ore are of *galena*, or *sulphuret of lead*, containing other metallic *sulphurets*, as those of *zinc*, *iron*, and *copper*: they traverse the *limestone* from *north-west* to *south-east*³. The name of a *silver-mine* has therefore been bestowed upon a *lead-mine* at *Sala*, as it often happens where the veins of *argentiferous galena* are worth working for the *silver* they contain. The appearance of the richest of the *Sala silver ore* is not unlike the *galena* of *Alston Moor* in *Cumberland*: it has the same grey aspect, but is more granular; that of *Alston Moor* having a fibrous structure, when it is amorphous and rich in *silver*. Few mines are so rich in beautiful and rare minerals. We arrived before it was too late to examine the heaps around it; and were soon convinced that an interesting collection might be formed from the discarded materials

(1) See Trav. in Sweden, p. 233. Lond. 1813.

(2) Ibid.

(3) Professor *Thomson* also notices a vein of *basalt*, as a very remarkable and uncommon object in a primitive country, quite flat, with no remains of *floetz trap* in the neighbourhood. *Ibid.* p. 235.

CHAP. IV.

Descent into
the *Salberg*.

materials which lie near to its mouth. Formerly, the quantity of *silver* found here was much more considerable than it is now¹. We descended into the mine, which is called *Salberg*, by means of ladders; but they were in such excellent order, and so strong, that we entertained no apprehension of falling. The descent is easy; but it is very curious, and unlike any other mine we ever visited. It exhibited to us a succession of circular caverns, the floor of one constituting also the roof of the other; through which we passed downwards by a series of cylindrical apertures, each of which, like the chimney of the inferior chamber, conducted us into some new grotto of wonder and curiosity. At the depth only of forty fathoms, we arrived at one of the working-places. The ore seemed to be in small quantities; a thin vein, entirely of *galena*. Sometimes, but very rarely, the miners have met with *native silver*, and then only in very small portions, which have been immediately bought up for more than it was worth, owing to its extreme rarity, as a curiosity. Much greater rarities have also been occasionally discovered in the *Sala mine*; namely, *antimonial silver*, of which the Assessor shewed us some fine specimens; also *native antimony*; and the *native amalgam* of *silver* and *mercury*. The *native amalgam* has not been observed there since the termination of the seventeenth century.

(1) "In the year 1506, the annual produce was 32,266 marks: at present, I am told, the quantity extracted does not exceed 2000." *Thomson's Trav. in Sweden*, p. 235.

century². At this time they were working the ore from cavities of the mine that had been once abandoned; which explains the reason why the veins appeared comparatively insignificant. The original excavations extend much lower,—to the depth of one hundred and fifty fathoms; but owing to an accident which happened here, as at *Fahlun*, of the falling-in of a considerable part of the works, the lower chambers have been rendered inaccessible. The torches used in all the *Swedish* mines consist of deal splinters, formed into fagots about as thick as a man's arm. Our guides

(2) The minerals found in the *Salberg* mine, near *Sala*, are enumerated by *Engeström*, in his *Guide aux Mines*, p. 17. *Stockholm*, 1796. But substances have since his time been discovered there which have rendered this mine remarkable; and among these, in particular, the mineral called, from the place where it was first found, *Salite*. We shall insert a list of all of them.

1. *Native silver*.
2. *Antimonial silver*.
3. *Native amalgam*.
4. *Native antimony*, and *sulphuret of antimony*.
5. Many varieties of *sulphuret of lead*, crystallized and amorphous.
6. *Sulphuret of zinc*.
7. *Arsenical and common sulphurets of iron*.
8. *Black granular iron-oxide*.
9. *Salite*.
10. *Chlorite*, containing *garnet*; and *garnet in galena*.
11. *Asbestos* in all its varieties.
12. *Pot-stone*.
13. *Ophites*, and green *serpentine*.
14. *Mica*.
15. Many varieties of crystallized *carbonate of lime*.
16. *Trap*, and *basalt*.
17. *Quartz*, and red *hornstone*.
18. *Hornblende*; &c.

CHAP. IV. guides took care to be provided with plenty of these, making a blazing illumination in the different chambers; and having supplied us with their mining implements, we fell to work, and were engaged in digging the ore from its native bed,—to the great mirth of the workmen, who were much amused with the waste of labour shewn in our awkward management of their tools. The great heat of the mine is always most oppressive to persons unaccustomed to such places; and of this the miners are themselves by no means insensible: but it was nothing to what we experienced in the Mine of *Fahlun*. We soon afterwards ascended, and procured a very interesting series of specimens upon the spot. Others were also afterwards brought to our lodgings. We have already inserted a list of them in a note. The Assessor of the mine shewed to us his own magnificent collection; containing not only all the minerals common or peculiar to *Sala*, but also many valuable specimens from foreign countries. He wished to dispose of the whole, for three hundred rix-dollars;—a trifling sum, compared with the real value.

Minerals.

Town of *Sala*. The town of *Sala* has been described as not inferior to *Fahlun* in size and elegance. Like all the *Swedish* towns, it has an open square, from which the streets run, with the utmost regularity, in different directions¹. To us it appeared both small and dirty; which only shews how different the same place may appear to different travellers at different seasons. We

(1) *Thomson's Travels*, p. 233.

We partook of a meal at the table d'hôte of the inn, where every thing was uncleanly and of bad quality : yet we had hunger for sauce, and therefore were not disposed to quarrel with our food. An apothecary, with well-meaning but overwhelming civility and volubility, sounded quite an alarum in our ears : he introduced to us an artist who carried about carved-work in ivory, executed with infinite minuteness of detail, and in the worst taste; from which engravings were made for sale, with portraits of the King and Queen. The arts are at a low ebb indeed, when works of this kind are in request : for their encouragement, they require the patronage of a *Turkish* Pasha, or a *Chinese* Mandarin.



CHAP. V.

FROM SALA TO UPSALA.

Journey from Sala to Upsala—Appearance of Upsala—Present condition of the University—Afzelius—Thunberg—Botanic Garden—Chemical Schools—Mineralogical Collection—University Library—Typographical rarities—Manuscripts—Codex Argenteus—Cabinet of Queen Christina—Mysterious gift of Gustavus the Third—Executive branch of the University—Degrees—Theses—Cathedral—Burial-place of Linnæus—monument erected by the inhabitants—Image of Thor—Bloody coat of Eric—Shift of Margaret—New Botanic Garden—Lecture Room—Conflicting opinions respecting Gustavus the Third—Habits and manners of the Students—Public Cellars—Conduct of the Students towards the Professors—total want of discipline—neglected state of science—want of emulation—Habits of intoxication—Character of the Swedes—Uniform aspect of the country and its inhabitants.

CHAP. V.
Journey from
Sala to Upsala.

IN our journey from *Sala* to *Upsala*, upon the thirteenth of *November*, we passed through a cultivated country so much resembling *Cambridgeshire*, in its level corn land and the appearance of its villages, that we were often reminded of
the

the approach to our own University, as we drew nigh to the most celebrated of the *Swedish* Seminaries. We met, as before, in our first stage to *Tårnaby*, numerous bands of *Dalecarlians*, returning, from their summer excursions for employment, towards their own country. From *Tårnaby* we next came to *Gastre*, distant twenty-one English miles from *Sala*; and here passed the boundary between the provinces of *WÄSTMANLAND* and *UPLAND*. Afterwards we journeyed through *Långtora* and *Safva*; the country being open, bleak, and level, with the very best roads. The land on all sides appeared to be in a high state of cultivation, having lost in picturesque beauty what it has gained by man's industry; for of those forests which almost universally cover the *Swedish* territories, not a vestige, nor even a solitary tree, was to be seen. After another stage of twelve *English* miles and a quarter, at the distance of fifty-two miles and a half from *Sala*, we arrived, just as it was growing dark, at *UPSALA*. We had, however, a fine view of the Royal *Château*, upon an eminence, as we entered the town: the Cathedral, also, presents a superb figure, and is visible, upon this road, a considerable distance from *Upsala*¹. In a former Volume, the

Appearance of
Upsala.

appearance

(1) The resemblance between *Upland* and *Cambridgeshire* was noticed in the preceding Chapter: but another traveller, also of the University of *Cambridge*, affords, in his *Manuscript Journal*, a curious coincidence with the foregoing observations, by saying that there is a resemblance also in the external appearance of the two Universities.

"The first appearance of *Upsal* may be compared to that of the situation and view of *Cambridge* from the *Huntingdon* road. The Palace of *Upsal* stands upon high ground, as does the county gaol at *Cambridge*. The town being below, you look over the latter,

and

CHAP. V.

Present condition of the University.

Afzelius.

appearance of *Upsala*, in the approach to it from *Stockholm*, has been described¹. When we first arrived in this celebrated seat of northern literature, having our heads filled with extravagant notions of the splendour of a University which had produced so many illustrious men, we reserved for our second visit a diligent inquiry into its history and present state². The high expectations we had formed, with regard to its flourishing condition, were not however realized. Every thing seemed to dwindle into insignificance, when the reality was opposed to our ideal picture. The morning after our arrival (*November 14*) we waited upon Dr. *Afzelius*, in his apartments in the Palace. He had been during ten years engaged in foreign travel; and was at this time unpacking his collection, which consisted of natural curiosities from *Africa*, and other distant regions which he had visited. We presented to him some specimens of rare plants entrusted to our care and conveyance by Dr. *Muller of Christiana*. As Dr. *Afzelius* had been in *England*, and was in *Cambridge* but a short time before we set out

and see an extent of flat country around. By the original plan of the Palace, it was intended to occupy three sides of a square parallelogram; but one side was never finished. At one corner there is a tower: the other side is not completed in the same way. The Governor of the Province resides here, and a few other persons. It is intended for the residence of the Sovereign, when he visits *Upsal*. This establishment is quite independent of the University." *Dr. Fiott Lee's MS. Journal.*

(1) Part III. Sect. I. p. 171. *Lond.* 1819.

(2) This has been in some measure anticipated, by the very ample account published by Dr. *Thomson*, in his *Travels in Sweden*. *Lond.* 1813.

out upon this expedition, he seemed to be well aware of the striking contrast which a comparison of the two Universities must necessarily afford; and said to us, "You must not expect to find every thing here upon the same footing as in *England*: we have neither the same funds, nor the means of exciting an equal degree of emulation among our students."

Having expressed an earnest wish to be present at some of the public lectures, he told us that Professor *Thunberg*, the successor of *Linnæus* in the Botanical chair, was at this moment delivering a lecture. We hastened to the spot; and found this venerable man, so well known for the account he has published of his Travels in *Japan*, in the old Botanic Garden, opposite the identical house, or cottage, where *Linnæus* once resided; and in which Professor *Thunberg* now lived. The lecture was given in the Old Green-house, as it used to be by *Linnæus*, in the *Swedish* language; and with such animation of manner, that we much regretted our incapacity to keep pace with the Professor in his harangue. Some of it we understood: it was upon the interesting subject of the "superba *Palmarum* familia" of *Linnæus*; and immediately brought to our recollection the observations with which he terminates the *Prolegomena* of his valuable *Flora Lapponica*³. But what was our surprise, to find the Professor with

(3) "Calidissimos orbis partes regit superba PALMARUM familia; terras calidas incolunt FRUTESCENTES plantarum gentes; australes Europæ plagas numerosa ornat HERBARUM corona; Belgium, Daniamque, GRAMINUM occupant copiæ; Sueciam, MUSCORUM agmina; ultimam vero frigidissimamque Lapponiam pallidæ ALGÆ, præsertim albi Lichenes. En ultimum vegetationis gradum in terra ultima!"

Flor. Lapp. in fin. Proleg. p. 26. Amst. 1737.

CHAP. V.

with only half-a-dozen slovenly boys, standing around him, as his audience,—the eldest of whom could not be more than fourteen years of age,—whose whole interest in the lecture seemed to consist in watching for the moment when a palm-branch was cast among them by the Professor, for which they scrambled; being eager to cut these branches with their knives, for the purpose of making them serve as walking-staves. After the lecture was over, the boys scampered off with their palm-sticks, and the Professor kindly admitted us to see his cabinet of rarities.

The account of his voyage to *Japan* was published in 1791, and translated into *German*. An *English* edition of the same work has since appeared in our own country.

His cabinet consisted of a large collection of objects of natural history, shells, birds, quadrupeds, insects, plants, and minerals. The last were not numerous; and they were, in some instances, described under false names: for having presented to us a small quantity of what he considered as the granular *tin* of *Japan*, we found it, upon examination, to be an *oxide of Titanium*. Among the insects we noticed a magnificent butterfly, the *Atlas* of *Ceylon*, measuring nine inches across its extended wings: also a most beautiful little stag, from the island of *Java*, not more than twelve inches in height. His collection of plants contained twenty thousand specimens. We saw also specimens of the *caméo* work of the *Chinese*, which seem to prove that this curious branch of sculpture has been long known in that country; whence, perhaps, the art of cutting *caméos* was originally derived by the antient and modern nations of the Western world.

world. The *Chinese caméos* are executed in *alabaster* and in *trap*, and sometimes exhibit layers of three distinct colours. One in the possession of Professor *Thunberg*, representing fruit and flowers, executed in *trap*, was of three colours—red, green, and white; and it measured twenty inches by sixteen. At this time, Professor *Thunberg* was preparing for the press a new edition of his *Flora Japonica*.

Some of the students who had remained in the Green-house afterwards accompanied us in our examination of the BOTANIC GARDEN. We found a head-gardener employed, with two assistants acting under his direction. The principal gardener obligingly presented to us a specimen of *Lopezia racemosa*, a very rare plant from *Peru*, with a delicate and beautiful red flower, belonging to the class *Monandria Monogynia*, of which so few are known. It is not noticed by *Martyn*, in his edition of *Miller's Dictionary*, although mentioned in the Catalogue of Green-house and Stove Plants prefixed to that work. We have since seen it in the Garden at *Cambridge*. Among the forced plants we were not a little surprised to find the common *English yew-tree* (*Taxus baccata*), growing in pots. It is native in one place only in all *Sweden*, where it appears dwindled to a small shrub. The green-houses were small, but neat, and kept in good order. It was said that the old garden would soon be destroyed: yet, as a spot sacred to the memory of *Linnaeus*, this ought, surely, to be preserved. In the adjoining buildings there was a small *menagerie*, where a few live animals were preserved; as an ape, a parroquet, &c.; but there was nothing worth more particular notice.

Botanic
Garden.

CHAP. V.

Chemical
Schools.

Afterwards we saw the Chemical Schools in the house of Professor *John Afzelius*, brother of *Adam Afzelius* the botanist, whom we had before visited. He was delivering a lecture, at the time of our arrival, to about twenty or thirty students; but in a voice so low and inaudible, as to be scarcely intelligible, even to those who were his constant hearers. We observed a few among them making notes; but the chief part of the audience seemed to be very inattentive, and to be sitting rather as a matter of form than for any purpose of instruction. Their slovenly dress, and manner, were moreover so unlike that of the students in our *English* Universities, that it was impossible to consider them as gentlemen: they had rather the air and appearance of so many labouring artificers, and might have been mistaken for a company of workmen in a manufactory. Around this chemical lecture-room was arranged the Professor's collection of minerals,—perhaps more worthy of notice than any thing else in *Upsala*; for the Chemical Laboratory scarcely merits attention. It was classed according to the methodical distribution of *Cronstedt*, and has been in the possession of the University ever since the middle of the eighteenth century. The celebrated *Bergmann* added considerably to this collection, which may be considered as one of the most complete in Europe; especially in specimens from the *Swedish* mines, which have long produced the most remarkable minerals in the world. One cabinet alone contained three thousand specimens; and the whole series occupied no less a number than forty. It is true, that, in this immense collection, there were many things denoting an earlier period in the history of mineralogy, and

Mineralogical
Collection.

and which now belong rather to the study of *geology* CHAP. V.
 than of *mineralogy*. One small cabinet contained models of
 mining apparatus; pumps, furnaces, &c. There is no
 country that has afforded better proofs of the importance of
 mineralogical studies to the welfare of a nation, than
Sweden; but the *Swedes* have not maintained the pre-
 eminence in *mineralogy* which they so honourably acquired¹.
 The *mineralogy* of *Cronstedt* laid the true foundation of the
 science, by making the chemical composition of minerals the
 foundation of the species into which they are divided²: and
 whenever an undue regard for the mere external characters of
 these bodies causes an attention to their chemical consti-
 tuents to be disregarded, it may be regretted, as an effectual
 bar to the progress of mineralogical knowledge.

We next visited the UNIVERSITY LIBRARY.—In ascending
 to it, we saw the *Auditory*, as it is called, where the Acade-
 mical disputations are held, and public lectures read; having
 very much the appearance of one of our English Town-
 Halls. This place is immediately under the Public
 Library. The President sits at the farther end of the
 apartment, immediately behind the Respondent. Upon
 a bench below the Respondent are placed the two
 Opponents, and behind them are several rows of seats for
 the spectators. Voluntary opponents frequently rise among
 the spectators, who discuss arguments with the Respondents.

The

(1) Thomson's Trav. in Sweden, p. 173. Lond. 1813.

(2) Ibid.

CHAP. V.

The degrees, or, as they are here called, *promotions*, are conferred once in three years. Neither the Professors nor the Students have any distinction of dress; except upon these occasions, when the Professors wear a cloak, and coloured stockings: yet, surely, if ever in any country the dignity of its Academical institutions require a peculiarity of habit, to distinguish its members from the lower orders of the inhabitants, it is more particularly necessary in *Upsala*. In *Cambridge* and *Oxford*, if the students appear in the streets without their Academical dress, it is generally those only of the *petit-mâtres* among the undergraduates who are tempted to commit this breach of University discipline, by a desire to imitate the habits of the young men of fashion in the metropolis; but their appearance is never such as to cause them to be confounded with the poorer class of artificers: whereas in *Upsala*, a student in the streets is not a whit better clad than any working coachmaker or carpenter in *England*.

University
Library.

We ascended to the University Library. It contains fifty thousand volumes; which are kept in very excellent order, and in a handsome room¹. The Librarian, *Peter Fabius Aurivillius*, Professor of Humanity, to whom we delivered

our

(1) Dr. *Fiott Lee*, in his *MS. Journal*, states the number of volumes at 65,000. The Persons who accompany strangers in their visits to public libraries are not likely to be very accurate in the accounts which they give in round numbers. The number of the volumes in the University Library of *Cambridge* has never been ascertained; but Dr. *Farmer*, Master of *Emmanuel College*, when Librarian, counted the number of authors, and they amounted to 100,000. This number has since been greatly augmented; and there are, besides, sixteen other Libraries in *Cambridge* belonging to the different Colleges. This comparative statement will serve to mark the striking difference between the two establishments.

our letters of introduction, told us that he had published a complete catalogue of the whole collection, arranged alphabetically, according to the names of the different authors. The alphabetical form is perhaps the most convenient which any catalogue can have, for the use of persons frequenting a public library; provided only that it be made sufficiently comprehensive, and be extended not only to the names of the authors, but also to the subjects and titles of their several works. In viewing this collection, we endeavoured to ascertain to what particular branch of knowledge it was most indebted. The Professor, to whom we applied for information, told us that it was impossible to determine this point; affirming that the library was well provided in all branches of learning. We found here Mr. *Turner* employed as the amanuensis², who formerly had the care of Sir *Joseph Banks's* Herbarium. The library is divided into three distinct parts: the first contains volumes of polite literature, history, and natural history; the second, a collection of various authors presented by *Gustavus the Third*, when he was Prince Royal: the third consists entirely of volumes of law, physic, and divinity. This library owes its origin to *Gustavus Adolphus*, or, as he is always called familiarly by the Swedes, *Gustaf-Adolph*. Like *Buonaparte*, it was customary with that monarch to reserve, for his share of the plunder, all the books which were found in places captured

(2) The same gentleman is mentioned by Dr. *Thomson*, in his account of *Upsala*, as being the Librarian at the time of his visit; the name being written *Törner*, after the *Swedish* manner.—See *Trav. in Sweden*, p. 174. Lond. 1813.

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captured by his troops: and he afterwards presented them to this University. Several of his successors have, by similar donations, imitated his munificent example.

Typographical
Rarities.

Here is preserved the first book printed in Sweden; namely, *Dialogus Creaturarum moralisatus*. It bears the date 'Stockholm, MCCCCLXXXIII.' We saw also the only copy known of the *Manuale Ecclesie Linkopensis*, printed at *Sœuderhæuping*, in 1525. The first work printed at *Upsala* was a *Latin* Commentary upon the Psalms, of which there is a copy, dated 1515. The other rare typographical curiosities are, a work of *Thomas Aquinas*, printed in folio, at *Mayence*, in 1467; two editions of the *Catholicon* of the fifteenth century, without date; and a *Latin* Bible, in folio, printed at *Nuremberg* in 1475. Also, the folio Roman editions of *Pliny* and *Suetonius*; the first, of 1473; the second, of 1470.

Manuscripts.

Among the Manuscripts, which are very numerous, and kept in a room below the Library, there are several of great value; such as, the *Diarium Wadstenense*, upon vellum, in small quarto, written by various hands, from the year 1344 to 1544;—an *Icelandic* copy of the *Edda* and *Scalda*, upon vellum;—and the *Icelandic Laws*, written upon vellum; a manuscript of great antiquity. But all these are eclipsed, in splendour and value, by the well-known and beautiful *CODEx ARGENTEUS* of the Four Gospels; considered, and with reason, by all comers, as the most worthy notice of any thing in the whole collection. We had the satisfaction of carefully inspecting this precious manuscript, if manuscript it may be called. The characters seem rather painted than written; every letter being executed in *silver*, with the exception of some

*Codex Argen-
teus.*

some of the initial letters, which are of gold: so that every page of the manuscript exhibits one continued illumination. A brief extract from this manuscript will serve to gratify mere curiosity, by affording a fac-simile of the characters. It corresponds with our version of the eighteenth chapter of St. Luke's Gospel, at the seventeenth verse: "VERILY I SAY UNTO YOU, WHOSOEVER SHALL NOT RECEIVE THE KINGDOM OF GOD AS A LITTLE CHILD, SHALL IN NO WISE ENTER THEREIN." In the *Codex Argenteus*, the well-known old *Saxon* or *Gothic* word BARN is used to signify the original *παῖδιον*. The passage occurs thus:

AMEN UIΨA İZVIS. SΛEI NI
 ANANIMIΨ ΨINΔANΓAKAÇA
 ΓQΨS SVE BARN. NI UMIΨ
 İN İZAI:

The history of this manuscript has been given by so many authors, and set forth with so much perspicuity by Mr. Coxe¹, that we shall no further enter upon it, than by briefly stating, according to the information we received from the Librarian, that it was completed about the end of the fourth century, by a Bishop of *Thrace*, in the *Gothic* language used at that time

in

(1) See *Travels into Poland, Russia, Sweden, and Denmark*, vol. IV. p. 151, &c. Mr. Coxe refers to the following works (*ibid.* p. 157, Note) for the history of this manuscript. "The several editions of the *Codex Argenteus*, by Junius, Stiernhelm, and Lye. Hickes *Gramm. Mæso-Gothica*, in his *Thesaurus Ling. Sept. La Croze Diss. Philol.* at the end of *Chamberlayne's Orat. Dom.* p. 136. *Wetstein's Proleg.* in *Nov. Test.* sect. 68 to 71. *Bib. Up. Hist.* p. 116 to 123. *Le Long. Bib. Sac.* vol. II. p. 140, & 538."

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in *Moësia*. In the year 1648, when the city of *Prague* was stormed by the *Swedes*, it was found among the literary spoils, by a *Swedish Count*¹, who sent it as a present to his Queen, *Christina*. Three editions are extant of this valuable Code, of which the best is from the *Clarendon Press* of *Oxford*, by *Edward Lye*, printed in 1750. It contains a *Latin Version*, and a *Commentary* upon the Text, by the learned *Benzelius*; together with *Lye's* own observations, and a *Gothic Grammar*.

The leaves of the *Codex Argenteus* are of vellum, but prepared in a very particular manner, and of a violet hue: the cover and back of the volume are of silver, embossed. It is related, that the celebrated *Isaac Vossius* stole this manuscript, during the confusion which preceded Queen *Christina's* abdication of the throne of *Sweden*; and that after his death it was purchased for 250*l.* by Count *Magnus Gabriel de la Gardie*, who presented it to the University of *Upsala*.

There are in this collection but few manuscripts of the Classics; and even these were evidently written after the invention of printing: they are, however, estimable, owing to the uncommon beauty of the calligraphy, which, in some instances, can with difficulty be distinguished from printing. We saw a good manuscript copy of *Horace*; and one of *Ovid's Metamorphoses*, less perfect and less legible. All the volumes are inclosed in cases faced with wire. Instead of written certificates, as vouchers for the books borrowed by the members of the University, they make use of printed tickets.

The

The principal curiosity in this library has been mentioned by other authors, and sometimes inaccurately described. It is a cabinet of the most curious and costly workmanship, adorned with paintings, mosaic, and gems, which was presented by the merchants of Hamburgh to Queen *Christina*. One of the doors is composed entirely of a single stone, said to be an *agate*; but, in fact, a slab of that species of stalactite *carbonate of lime*, which is vulgarly called "flowered alabaster." The natural veins, or zones, of this mineral, beautifully polished, have been ingeniously appropriated by a painter, so as to constitute parts of the picture which he has represented upon the stone. Upon one side is seen the destruction of Pharaoh and his Host in the Red Sea; and few persons would imagine that in a work of this kind, which must necessarily have so much of *trick* in it, the artist could have displayed the sublimity he has really afforded. The figure of Moses, and the expression delineated in his countenance, are worthy of as great a master as *Raphael*. An Equestrian Soldier is also figured with great spirit and energy. In this curious piece, the perspective, as it might be expected, is altogether violated. Upon the other side of the slab is a representation of the Day of Judgment; but this has been evidently borrowed from the famous picture by *Michael Angelo*, in the *Sestina Chapel* at *Rome*. It contains some of the same figures; and has, moreover, the same characteristic portraits; such, for example, as those of the Cardinal, and the Mistress of the painter. The artist, whose name we did not learn, has represented his own portrait among those of the blessed in

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heaven, and has decorated his head with the Pope's tiara. Other parts of this cabinet are adorned with antique gems, paintings on precious stones, *Florence* mosaïc-work, executed by inlaid pieces of antique marbles, and very curious painting by means of inlaid pieces of wood in mosaïc, perhaps the workmanship of *Albert Durer*, and certainly of his time.

Mysterious
gift of *Gusta-
vus the Third*.

But the most singular deposit in this room is a donation of *Gustavus the Third*: it consists of two chests of manuscripts, double-locked, chained, and sealed, which are not to be opened until fifty years shall have elapsed from the time of his death. These chests are supposed to contain his foreign correspondence, many papers relating to the principal transactions in which he was engaged and the state of Europe at the time of his reign. An *English* traveller will hardly participate the feelings of curiosity which are betrayed by the *Swedes* respecting these mysterious boxes. "What a misfortune for us," said one of the inhabitants of *Upsala*, "that this precious deposit will not be opened in our time." Great expectation is on foot with regard to the things that will come to light when these papers are examined; but, for our own part, we could not help thinking that the moral of the old fable "*Parturiunt montes*" &c. will be found very applicable to the event of the opening of these chests, when the time arrives for their inspection.

The number of the students in this University has sometimes exceeded one thousand: at the present time there were not above three hundred¹. The whole population, including

(1) When Dr. *Piott Lee* afterwards visited this University, the number was greatly increased. According to a note in his *MS. Journal*, there were about 800 students at that time.

including the students and other inhabitants of *Upsala* and its neighbourhood, did not amount to four thousand persons. The University consists of a Chancellor, a Sub-Chancellor, who is always the Archbishop of *Upsala*, and a President, who is called *Rector Magnificus*, answering to the office of Vice-Chancellor in our English Universities. There are also Professors of *Divinity*, *Law*, *Physic*, and *Philosophy*, besides extraordinary adjuncts, as assistants, to each of these Professorships, *Magistri Docentes* in the several faculties, and Teachers of Modern Languages and the Polite Arts. The principal studies of the place are divided into the four classes above mentioned. The lectures are both public and private, the former being delivered gratis. The annual salaries of the Professors do not exceed 100*l*. When a Professor has continued in office for thirty years, he is allowed to retire with the title of *Emeritus*, and enjoys his salary for life¹. Students are sent to *Upsala* about the age of sixteen, or even earlier: they lodge in private houses in the town, there being no Colleges; and they are divided into classes, according to the Provinces to which they belong. Lectures begin, as with us, in *October*; and continue for about eight months. The degrees conferred, are those of *Philosophiæ Candidatus*, or Bachelor of Arts; *Philosophiæ Magister*, or Master of Arts; and in *Divinity*, *Law*, and *Physic*, the different gradations are styled *Candidatus*, *Licenciatus*, *Doctor*². Before receiving any degree,

Degrees.

(1) This fact is stated by Mr. *Coxe*, from whom it is here borrowed. See *Travels*, vol. IV. p. 145. *Lond.* 1787.

(2) See *Coxe's Travels*, ib.

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Theses.

degree, a student must undergo several examinations from various Professors, and must compose a Latin *Thesis*, which he is bound to defend in the Schools. Similar exercises are also necessary previous to taking the second degree; and as the different *Theses* are printed, we were at considerable pains to collect all that could be obtained, thinking they would serve to give a good idea of the state of science in this seminary. We pursued, afterwards, the same plan with regard to the University of *Abo*; and a list of the subjects upon which the principal dissertations were written, will be found in the *Appendix*¹. Considering the manner in which the lectures are given, the sort of people which attend as students, and the total want of all Academical discipline and all incitement to emulation in *Upsala*, it is quite wonderful that it has produced such a number of persons eminent in every branch of science.

Cathedral.

Soon after seeing the Library, we visited the CATHEDRAL, which is hard by; the finest ecclesiastical structure in all *Sweden*². The spire of the Cathedral of *Wästerås* is said to be loftier, but in other respects there can be no comparison between

(1) The *Amœnitates Academicæ* published in 1749, in 8vo. under the auspices of *Linnaeus*, contained a collection of these *Theses*, but not in their original state: they were selected and revised by that great man, and have therefore been regarded as of equal authority with his own writings. The collection alluded to in the *Appendix*, was formed with a view to shew simply what the subjects were of the *Theses* at *Upsala* and *Abo*, as they were severally printed in their original form in those Universities during nearly half a century. This collection, presented by the author of these Travels, is now in the *University Library* at *Cambridge*, in four volumes quarto.

(2) "Cathedrale ornat templum, inter omnia Suecorum pulcherrimum." *Deliciæ Regn. Sueciæ*, tom. I. p. 380. *L. Bat.* 1706.

between the two edifices. This of *Upsala* is a brick building, in excellent order; having been lately repaired, at a great expense. The architecture of the interior is purely *Gothic*; but the outside of the building exhibits a strange mixture, with pillars of the *Doric* order, in consequence of work done in a later age, when additions were made to the original structure; the cathedral having often suffered from fire, and as often been repaired. It is said to have been begun in the middle of the thirteenth century, under the direction of *Stephen Bonneville*, a *French* architect, who followed in its construction the model of the Church of *Nôtre Dame*, at *Paris*³; but this date does not agree with the chronology of the accurate *Messenius*, who, in his "*Epitome Scondicæ illustratæ*," assigns the year 1164 for the commencement of the cathedral⁴, which was not completed for above two hundred years afterwards, when its dedication took place with extraordinary pomp and solemnity⁵. As we entered this building, we were much struck by its elegance and neatness. The altar alone exhibited a barbarous style of ornament, being laden with heavy colossal figures, executed in the worst taste, and already hastening fast to destruction.

At

(3) See *Coxe's Travels*, vol. IV. p. 131. *Lond.* 1786.

(4) "Carolus rex ibi prima basilicæ jacet fundamenta ex marmore, et post annos cc. fuit opus consummatum." *Messen. Scond. Illust. tom. XV. p. 27. Stockholm, 1705.*

(5) This happened in the year 1435, (*ibid.* p. 74.) and the event is recorded in the third volume of the same work. "Archimysta etiam Sueoniæ Olaus, consummatam tandem Upsalensium basilicam, Thomâ, Stregnensi episcopo, collegâ adhibito, insigni admodum festivitate, Deo Optimo, Maximo, Divisque, Lausentio, Olao, ac Erico, inauguraverat, dedicaveratque." *Chronol. Scond. tom. III. p. 59. Stockholm, 1700.*

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At the western extremity is a magnificent organ, the largest in *Sweden*. Near the altar, inclosed in iron net-work, is the silver coffin containing the reliques of Saint *Eric*; not of *Eric the Fourteenth*, the eldest son of *Gustavus Vasa*, as has been erroneously supposed, but of *Eric the Seventh*, son of *Jedvardus*, who being captured in battle by the *Danes*, was beheaded, and afterwards canonized for his virtues. His remains were originally interred in *Old Upsala*, but afterwards transferred to this cathedral¹. *Eric the Seventh* cuts a brilliant figure in the early annals of *Sweden*: it was this monarch who conquered *Finland*, and first established Christianity among the inhabitants of that country. He formed a regular Code of the *Swedish* Laws, which bore his name; and he excluded from the benefit of those laws all persons who adhered to their antient heathen superstitions.

In

(1) He was taken in battle in the field of *Upsala*, after contending with the greatest bravery against his rebellious subjects, who were aided by the *Danes*. (*Scondiæ Illustratæ*, tom. II. p. 5. *Stockholm*, 1700.) The *Swedes* celebrate the *Eighteenth of May* as the day of his martyrdom. (*Ibid.*) His reliques were removed to *New Upsala* in the year 1273. (*Ibid.* tom. XII. p. 126.) This monarch is spoken of in terms of high eulogy in the *Swedish* annals. “*Commodis patriæ sedulus invigilat; non paucas fundat ecclesias; ipsas proventibus ornat; Rempubicam quoque insigniter ordinat; æquissimas condit leges; impias abrogat; perversas Sueonum consuetudinis radicitus evellit; inde flagitiosos, sine respectu personarum, animadvertit.*” (*Ibid.* tom. II. p. 5.) His virtues and severe discipline were not however suited to the views and temper of the Nobles under him, who had been accustomed to live by plunder and piracy; consequently they conspired against his life, and were joined, in a revolt, by the *Danes*. There is nothing worth seeing at *Old Upsala*, or *Gamla Upsala*, now a village, distant above five *English* miles from the modern city, if we except the three *tumuli*, said to be the Sepulchres of *Odin*, *Frigga*, and *Thor*, which are near the village church. Dr. *Fiott Lee* visited *Gamla Upsala* in 1807, and made a drawing of those *tumuli*, whence the *Vignette* to this Chapter is taken. Dr. *Lee* compares them, in size and appearance, to the *Mounds* near *Bartlow* in *Essex*.

In a small chapel behind the altar is an oblong monument, the tomb of the famous *Gustavus Vasa*. His effigy is represented in marble, between those of his two first wives, whose remains are interred in the same sepulchre. This interesting monument has sustained considerable injury, owing to a fire, which also did great damage to the cathedral.

There are many other tombs which deserve notice, from their relationship to the *Swedish* history²: but all our attention was taken up, and wholly engrossed, by one; namely, the tomb, or rather grave, of *Linnæus*. A simple entablature of stone, let into the pavement at the western extremity of the cathedral, near the door, and under the organ gallery, now covers the mouldering reliques of this illustrious man. With what emotions of sacred enthusiasm will future generations approach the hallowed spot which has afforded a sepulchre to his remains!—He, who was every thing that could be required, to give to the studies of Natural History, in the great scale of Science, their dignity and value³! How powerful, in its effect upon the heart, will ever be the simple inscription which marks the place where he lies!

Burial-place
Linnaeus.

OSSA
CAROLI · A · LINNÆ

Who

(2) For an account of which the Reader may be referred to the valuable information contained in the *Travels of Mr. Coxe*; an author who has made History, as it were, *his home*; and who is never so much *at home* as when he is among the tombs of illustrious persons.—See *Travels into Poland, Russia, and Sweden*, vol. IV. p. 132, &c. Lond. 1787.

(3) “He was early led to regret that NATURAL HISTORY had not, by public institution, been more cultivated in Universities; in many of which, logical disputations and metaphysical theorizing had too long prevailed, to the exclusion of more useful science.”—See *Pulteney’s Linnaeus*, by Maton, p. 496. Lond. 1805.

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Who will read these words unmoved; or wish to read more! for of the title that has been added, every letter is superfluous¹. "HIS NAME," as said his biographer², "CAN NEVER DIE. IT WILL BE CHERISHED IN THE MEMORY OF EVERY LOVER OF NATURE, AND REMAIN ON THE FAIR RECORDS OF SCIENCE, TO THE END OF TIME." Indeed time alone is wanted, to shew the extent of his researches, and the depth of his knowledge. He seems to have anticipated whole ages of investigation³: and in the goodness of his heart, and the tendency of all his writings and discourses to give glory to the great Author of the works of Nature, there was something not only to admire, but to venerate⁴. In a small chapel near the place of his interment, the students and other inhabitants of *Upsala* have erected a plain but beautiful monument to his memory.

Monument
erected by the
inhabitants.

- (1) This is the whole of the Inscription :

OSSA
CAROLI · A · LINNE'
EQV · AVR.
MARITO · OPTIMO
FILIO · VNICO
CAROLO · A · LINNE'
PATRIS · SVCCESSORI
ET
SIBI
SARA · ELISABETA · MORÆA

- (2) See *Pulteney's Linnæus*, by *Maton*, p. 506. *Lond.* 1805.
(3) Witness the extraordinary remark in his Diary, "that he had never seen *rudera diluvii universalis*, but *successiva temporis*." The most experienced geologist of the present day will know how to appretiate the value of this observation.
(4) "The habit of scrutinizing and contemplating the wonderful energies and economy of Nature, had the effect of inspiring *Linnæus* with an unsophisticated sort of pious feeling, which breaks forth, in various parts of his writings, with a peculiar and most engaging eloquence."—See *Pulteney's Linnæus*, by *Maton*, p. 497.

memory. It is executed in the fine porphyry of *Elfsdal*; the letters of the inscription being of bronze, gilded, and placed in full relief upon the stone. As far as the workmanship is concerned, nothing can surpass the effect. An objection may be made against the inscription itself, which has very generally been censured, on account of the words *Botanicorum Principi*: but it should be observed, that this title, and the very words of it, were those which *Linnaeus* had chosen to appropriate to himself⁵: and although the inscription would have been much better without any such addition, yet this fact may always be urged in its justification. In its present state, this inscription appears as follows :

CAROLO . A . LINNE'

BOTANICORUM

PRINCIPI

AMICI . ET . DISCIPVLI

MDCCLXXXVIII.

The expense of this monument, plain and simple as it seems, amounted to two thousand rix-dollars; of which sum, four hundred were expended in supplying the bronze characters of the inscription. On the south side of the same aisle there is a Monument to the memory of *Menander* archbishop of *Upsala*, erected by his son. This monument was executed in *Italy*; and it is adorned with sculptured figures in marble. A piece of sculptured alabaster also represents the prelate, leaning

(5) "He was styled, by all Botanists, PRINCEPS BOTANICORUM." See *Linnaeus's Diary*, p. 566. *Pulteney's Linn. by Maton*. Lond. 1805.

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leaning upon his *Biblia Fennica*, receiving the homage of a Groupe of Figures, whom we supposed to represent the Muses, from the circumstance of their being preceded by a winged *Apollo*.

Image of
Thor.

Among the reliques preserved here, there are some so exceedingly curious, that we cannot omit the mention of them, although they have been noticed by many other travellers. Foremost in the list of these, is the wooden image of the God *Thor*, who may justly be styled "the logger-head idol of the Northern nations." It is much such a representation of the human head in a log of wood, as *Scheffer*, in his work "*De Diis Lapponum Paganicis*," has figured, with a worshipper before it in the act of adoration¹. According to *Scheffer*, the image of *Thor* was always of wood, and of this rude workmanship: it was an idol made out of a birch-tree, the head out of the root, and the body out of the trunk². This is connected with the old worship of fire; and, as a proof of it, the votaries of *Thor* used to drive an iron nail, with a small piece of flint, into the idol's head³. The image was perhaps borrowed from the upright center log, around which, as at the present day in the Northern forests, fuel was heaped, whenever a fire was kindled by the natives. All these antient superstitions, as they refer to the customs of mankind in its rudest state, so they may

(1) Joannis Schefferi Lapponia, p. 105. *Francof.* 1673.

(2) "Hæc idola faciunt ex betula, et ex radice quidem caput, ex trunco seu caudice partem reliquam." *Ibid.*

(3) "In capite infigunt clayum ferreum, cum silicis particula, ut si videatur, ignem *Thor* excutiat." *Ibid.*

may be still found, in their prototypes, among the simple observances, habits, and manners, of a savage people. The *Yule Clog* still retains a degree of reverence in the northern parts of *England*; the origin of which may have been of the same nature with that in which the *Swedish* idol was held by its worshippers. The log itself, as a symbol of the fire for which it was used, became an object of worship⁴. Whatever opinion may prevail upon this subject, we shall find that a similar superstition respecting the same sort of idol has prevailed almost all over the world. Among the antient idols of *Greece*, the *Palladium* was of this description; for it was nothing more than a piece of wood of an extraordinary form⁵. We considered, therefore, this image of *Thor* as one of the most curious antiquities that any country has preserved; as connected not only with the early history of *Sweden*, but with the most antient mythology in the world⁶; and as being worthy of a much more careful keeping than it seems to have here met with, where, from the disregard shewn to its preservation, it is not likely to remain for any considerable length of time. Another curiosity shewn here is more in unison with the taste of a people who preserve among their reliques many a sanguinary testimony of the deeds of murder committed

(4) See *Brand's Popular Antiquities*, pp. 155, 157. *Newcastle upon Tyne*, 1777. Also *Brady's Clavis Calendaria*, vol. I. p. 124. *Lond.* 1812.

(5) See the observations of *Heyné*, in his *Excursus*, upon the *Palladium* and the *Penates*.

(6) According to *Mr. Coxe*, a correct delineation of this image occurs in the *Monumenta Ullarekarensia* of *Perinskiöld*.

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Bloody Coat
of Eric.

Shift of
Margaret.

committed in this country; namely, the coat worn by *Eric* the son of *Steno Sture*, his shirt, silk breeches, and purse, when he was stabbed by *Eric the Fourteenth*; the place where the wound was inflicted being visible, owing to the marks of blood which flowed from the unfortunate victim¹. Here is also shewn a more singular standard than perhaps was ever used in any country to excite the valour of its troops: nor do the *Swedes*, in battle, stand in need of any artificial trophies to call their bravery into action; being, by nature, warlike. It is nothing more than a dirty rag, fixed to a staff, like a banner; and called *Margaret's Shift*, or *Shirt*. The history of it does not seem to be very well known: all that we could gather respecting it, has been stated by our own countryman, Mr. *Coxe*; who says of it, that it was found by the *Swedes* at *Nuremberg*, when they captured the place; and afterwards by them deposited here, in honour of the *Semiramis* of the North². Lastly, we were shewn the magnificent robes worn by the Archbishop and other Clergy upon great festivals: they are principally of velvet, embroidered with gold. This collection is kept in a sacristy, up a small

(1) See *Coxe's Travels*, vol. IV. p. 137. *Lond.* 1786. for the description of the monument of the illustrious family of the *Stures*, and for the interesting inscription upon their tomb, which is in a small chapel of this Cathedral.

(2) *Ibid.* p. 141.—“How this shift,” observes the same author, “was first procured by the inhabitants of *Nuremberg*, why it was there considered as a relic, and the exact period when it was imported into *Sweden*, I must leave to be ascertained by those who are disposed to trace its history and adventures. I did not learn, however, that it has ever had the honour of giving a name to any particular colour, like the shift of *Isabella*, Queen of *Castile*.”

small flight of stone steps, near the Gothic window of the cathedral: the reliques are preserved in a chamber closed by double doors of massive iron, with ponderous rusty locks.

After seeing the *Cathedral*, we went to the NEW BOTANIC GARDEN and Green-houses; in which latter are apartments for Professor *Afzelius*, the *Demonstrator of Botany*, as he is here called, and also for Professor *Thunberg*. To this place all the collection formed by Professor *Thunberg*, in his extensive travels, was at this time about to be removed; the Professor having presented it to the University, for public use. The plan was, to place the whole in one oblong room of very considerable grandeur, but certainly not sufficiently capacious to exhibit it to advantage. The Museum ought to have been of the same dimensions as the Green-house, which runs parallel to it, and will perhaps be the first Conservatory of the kind in Europe. They were already beginning to move the plants into this Green-house, from the Old Botanic Garden. In the front of the building is the new Lecture Room, with a magnificent dome and a sky-light. Immediately under this dome is placed the Professor's Chair; and behind the *Cathedral* is a bust of *Linnæus*, to whose memory both this building and also the New Botanic Garden may be considered as sacred. As to the garden itself, when considered with reference to a University that has done so much for the science of Botany, it can hardly be deemed worthy of *Upsala*. It consists of six *Swedish* acres of ground, lying beneath the windows of the Palace, and on its western side. But it contains nothing remarkable; and the wretched taste which has been shewn in laying it out may be conceived, when it is mentioned,

New Botanic Garden.

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mentioned, that an avenue of clipped fir-trees, barbarously cut into more artificial and formal shapes than ever characterized a Dutchman's garden, lead from the entrance to the Green-house.



Setting aside the ugly formality of this appearance¹, there is another reason for desiring the removal of such an avenue, in the injury done to the garden. The roots of so many fir-trees, occupying a considerable portion of the ground, must have a pernicious tendency in obstructing the growth of plants: and surely in *Sweden*, which is one vast region of firs, from *Scania* to *Lapmark*, an addition of this kind was not required for the Botanic garden of its principal University. The whole of this new establishment, including the Green-house, Museum, Lecture-room, Lecture-Room, Garden, &c. may be considered as one of the splendid monuments of the reign of *Gustavus the Third*, to whom it is entirely due; and of whom, in the present conflicting state of party and opinion in *Sweden*, it is almost impossible to speak with truth and accuracy. According to one set of men, his memory should be held as deservedly glorious. When his conduct in public affairs is censured, as having proved ruinous to the *Swedish* finances, "let the works he left

Lecture-room.

Conflicting
opinions re-
specting *Gus-
tavus the
Third*.

(1) Which is nevertheless a relique of *Roman* taste, as appears from a passage of *Pliny's* Letters before cited. See Part III. Sect. I. p. 47. Note (2.) Lond. 1819.

left behind him," say they, "at least be properly estimated, to prove that his lavish expenditure of the public money was always intended for the public good, and never idly nor vainly squandered." The same set of men affirm that *Gustavus the Third* was not calculated for the *Swedes*; that his polished manners and enlightened mind were too refined for them; that not a single work exists in *Sweden* calculated to promote public honours, to give encouragement to the arts and sciences, to improve the manufactures, or to afford patronage to learning, but it may be referred to his reign. Equally endowed, they add, by every qualification that is requisite to form the character of a profound statesman and a great king, posterity will recall with gratitude the memory of this distinguished monarch, will drop a tear in viewing the splendid monuments of his taste and patriotism, and will shudder in the recollection of his fate: and when the prejudices of party, the interests of selfish politicians, and the suggestions of private resentment, shall be done away, future generations will read his history, and place him with *Augustus* and *Hadrian*. Having heard this eulogium, as it is frequently pronounced in *Sweden*, the whole of it will be contradicted by an opposite statement, made by persons who spare no pains to execrate the very name of *Gustavus the Third*; and who, vilifying his character by the most odious of calumnies, speak of him only as an object of detestation. The time is not yet arrived when History will place him in his true light. In the mean time, to counteract in some degree the injurious designs of his adversaries, it may be added, from the representation made by those who resided with him while he was in *France*, and

were

CHAP. V. were intimately acquainted with the man, that nothing can be more unjust than the aspersions cast upon his private character¹.

Habits and
manners of
the Students.

Having thus described whatever is worthy the notice of a traveller visiting the public buildings of this University, a few words may now be added upon the manners of the inhabitants. When an *Englishman* speaks of the Universities of *Sweden*, or when he is reading the different accounts that have been published of *Upsala*, it is not often that any right notions are entertained, either of the Seminary that bears this name, or of the habits and tact of the Students and Professors. If, for example, he forms his notion of a *Swedish* University from any thing he has seen of similar establishments in his own country, associating ideas of *Cambridge* and *Oxford* with his imaginary conceptions of *Upsala*, *Lund*, and *Åbo*, he will be egregiously in error. It is not easy to conceive any thing more foreign to all our notions of the dignity and splendour of a national seminary for education, than in the real state of things in *Upsala*. Perhaps there may be something to compare with it in the Universities of *Scotland*; but even in the last there is nothing so low as in *Sweden*. Let the Reader figure to himself a few dirty-looking lackeys out of place, lounging about in slouched white hats², with a loose surtout thrown over their shoulders, one arm of which hangs empty and dangling by their side, and long military boots rising

(1) In this number was the late Professor *Pallas*, and other distinguished men of letters, with whom *Gustavus* associated.

(2) See the Plate annexed.

rising above the knees; their hair uncut, uncombed, and undressed, hanging as long in front as in the rear, but parted over the middle of the forehead, so as to fall in long unsightly tresses about the eyes, cheeks, and ears; giving to the whole figure an appearance not unlike the effigies which the rabble in *England* dress up to represent *Guy Fawkes* upon a Fifth of *November*. This description of their costume is no exaggeration; it is peculiar to all of them, of whatever rank or situation in the University, boys or men; but by much the greater part are boys. Then for their lodgings;—for, as it was before stated, there is no such building as a College for the accommodation of any of them: they all dwell in hired lodgings, in the private houses of the tradesmen and other inhabitants;—entering one of these lodgings, and comparing them with the justly reprehensible luxury and extravagance visible in the room of a student in our *English* Universities, the contrast is great indeed!—a single gloomy chamber, with a bench or couch, by way of bed, in one corner; a stove, and perhaps two chairs; the naked walls hung with wretched prints or dingy-looking maps; and tobacco-pipes, and other lumber, littering about the chamber. We found here one of the identical party by whom we were formerly assailed in our journey from *Umeå* to *Malmagen*, in the *Norwegian Alps*; and whom we have mentioned in a former Volume¹, as a student of *Upsala*, who presented to us some *Runic* Calendars. It is his portrait whom we have

represented

(1) See Part III. Sect. I. p. 552. *Lond.* 1819.

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Public Cellars.

represented as coming from the Lecture-room, with his book in his hand¹. By his means we obtained an introduction to many of his fellow-students, and became acquainted with the internal policy of the place. Every one studies what, and when, he pleases: of course, very little real application to learning takes place among them. Soon after mid-day, they resort in numbers, "*à la cave*," as it is termed; that is to say, to a public cellar for drinking, of which there are two or three in *Upsala*, precisely answering to the tap-rooms in *English* alehouses. Here they smoke tobacco, and drink beer, or brandy, or wine. The *beer* is a composition manufactured at *Stockholm*, and very bad: although perhaps less unwholesome than the deleterious mixture now sold under the name of *beer* in *England*; which, by its baneful effects, has actually altered the character of the lower orders, and substituted a morbid and gloomy irascibility for jovial hilarity; so that a merry drunkard is hardly ever seen. The *wine*, though called *French wine*, is also from the breweries of *Stockholm*; and the *brandy* is of the worst quality. *Swedish brandy*, in whatever part of the country it is found, is everywhere alike; a weak spirit, flavoured with aniseed, and, when diluted with water, causing a precipitation, as if milk had been added to the mixture. In these cellars they remain, not only the whole of the rest of the day, but until long after midnight, and sometimes all night. Their revels too, or rather brawls, are not unfrequently attended by blows;

(1) See the Plate annexed, facing p. 201.

blows; their disputes, especially when they are of a political nature, ending often in pugilistic combats.

We visited one of these cellars; and found about twenty of the students enveloped by thick fumes of tobacco-smoke; some of whom were sleeping upon chairs, and others lolling upon a bench. Our friend, who introduced us, announced that we were from the University of *Cambridge*: upon which the greater part did us the honour to rise; forming a circle round us, and asking several questions relative to our journey, and motives for visiting *Sweden*. These we were preparing to answer; when a votary of *Bacchus*, giving us a hearty slap between our shoulders, reminded us, that, as strangers, we ought to drink upon our coming among them. Some glasses being presented, filled with bad *Malaga* wine, we immediately drank "To the prosperity of the University of *Upsala*." A young *American* student, who was one of the company present, did not seem to relish the sort of welcome they were disposed to give us: and at the same time being eager to make known the principles he had imbibed, he said we might have swallowed the *Malaga* without a ceremonious toast:—and then he added, "The students of *Upsala*, brought up in the school of Liberty, are not constrained, as in *England*, to interrupt their libations with the palaver of a toast." To this we made answer, that we were thankful for the information; as it would enable us to avail ourselves of that freedom from restraint, which he boasted, to resign to our glasses; having no other use for them than to testify our wishes for the success of a University so celebrated as that of *Upsala*. However, having
set

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set the example, the hearty *Swedes* were not deficient in courtesy towards the strangers; but all filling bumpers, drank, with loud cheers, "Prosperity to the University of *Cambridge!*"—while the surly *Yankee* remained silent, and sat apart, puffing fumes from his pipe.

Conduct of
the Students
towards the
Professors.

The heat of one of these cellars is almost equal to that of a vapour-bath. Sometimes they all sally forth; and woe betide the unpopular Professor who may happen to be in their way, when the convives quit their sudatories! They have two different watch-words; one of which controls or animates their fury upon these occasions. If the Professor be a favourite, the cry of '*vivat!*' is heard, and he is suffered to proceed without molestation; but if otherwise, a shout of '*pereat!*' is the signal for attack; when the Professor either makes his escape as rapidly as he can, or is very roughly handled. There is no account taken, as in our Universities, of the hours when they return to their lodgings. Every one acts as he thinks proper in this respect. Discipline, if ever any such regulation existed in *Upsala*, has long ceased; and in the total laxity of all wholesome restraint among a set of untamed youths let loose from their parents, it may be imagined what disorders must ensue. Indeed it was much to be feared at this time, and the event has in some degree justified the apprehension, that this famous University, called, by *Stillingfleet*, "that great and hitherto unrivalled School of Natural History," together with the Empire it no longer adorned, were hastening to their dissolution. The number of students has been said to vary annually from six hundred to a thousand, which is a gross

Total want of
discipline
among the
Students.

exaggeration

exaggeration of the truth: their number at this time, as was before stated, did not exceed three hundred; and no instance occurs of more than thirty being present at the same time at any public lecture. It may be urged, and with truth, that public drinking-cellars are not the places in which to look for the reading class of the students: men seriously disposed towards studious employment are seldom those, in any University, who are seen in the streets or in taverns: but there was no such individual to be found in the place as a student distinguished by his talents and by his attention to University studies; and for this plain reason, that there were none of those public examinations, and those trials of ability, with distribution of honours and rewards, which powerfully call emulation into action; stimulating that love of fame inherent in every human breast, especially in youth; and feeding the fire of genius, by agitating every latent spark, until it bursts into flame. It cannot be expected, that in a society like that of *Upsala*, destitute alike of discipline and of all the springs of mental energy, its students will ever become much distinguished. Among a number of young men so circumstanced, it is not at all marvellous to observe an indifference with regard to morals, and a striking disregard of all precept and admonition. The fault is not with them: under a better system, there can be no doubt of their becoming bright ornaments of their country; because a love of truth, strict honesty, goodness of heart, generosity, assiduity, serenity of mind, firmness, constancy, courage,—all these, and many other qualifications, that become a man, and fit him to shine as a distinguished member of society,

Want of
emulation.

are

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Habits of intoxication.

are the natural characteristics of the generality of the *Swedes*. There is one virtue, however, which we have been compelled to omit in the list: we may not add sobriety, when we are speaking of the students of *Upsala*; because their chief vice consists in habits of intoxication: and it is a vice not easily to be exterminated in a country where examples of sobriety are so much wanted. If parents consider it no degradation to be seen by their children in a state of drunkenness, it is not to be expected that the rising generation should acquire more polished and rational habits. The consequence however, in *Sweden*, is deeply to be deplored. Young men, grown old before the period of their youth has expired, make their appearance before a traveller with sallow countenances, fallen cheeks, dim eyes, bending bodies, nostrils clotted with snuff, an enormous tobacco-pipe dangling from their lips, their teeth black and carious; sitting in gloomy apartments filled with smoke and fetid air, the floors of which are covered with the filth of expectoration; and at the age of five-and-twenty having anticipated, by their excesses, the decrepitude and infirmities of fourscore. Perhaps it will be said, that this picture is too highly coloured; and that a feeling of disgust, excited by the view of some rare instances where this description is applicable, may have led to too general a remark. Of this others may determine: the remark is made as it was written in the country to which it refers; and if it be found afterwards less extensive in its application than was believed at the time, the author, who has not seen *Sweden* "with a jaundiced eye," may be acquitted of any intentional deviation from the truth. The

passing

passing traveller must see many things in haste, and perhaps form many of his conclusions too rapidly. He may also, from the very circumstance of his transitory intercourse with the inhabitants, view some things in a more advantageous light that would be admitted by those who reside for a long time in the country. Sometimes, in conversing with those of his own countrymen who have remained long in *Sweden*, where the author has extolled the hospitable and obliging disposition of the natives, he has been told that the novelty of seeing strangers makes them load the new-comer with all manner of caresses and favours; but that when this wears off, the disposition to confer acts of kindness ceases also. And surely, where a tendency to sponge upon the noble hospitality of a *Swede* has caused a stranger to exhaust the benevolent feeling extended in his behalf, he is rightly served if he experience the full effect of its diminution. Some of the *French* emigrants, as it is well known, did make remarks of this nature; and their natural peevishness of temper led them to vilify their benefactors. *Sweden* is not the only country where they evinced a similar disposition,—cursing, rather than blessing the hand that fed them. *De Latochnaye* was an emigrant, and a writer of this description; little disposed to acknowledge the extent of his obligation to those by whom he was so hospitably entertained, both in *Sweden* and *Norway*: and surely, if any one ever put the *Swedish* hospitality to its full trial, it was *De Latochnaye*; who, having met with a serious accident in the north of *Sweden*, took up his abode with a family of the name of *Nordenfalk*, with whom he remained until his recovery was complete;

Character of
the *Swedes*.

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complete; receiving the whole time a degree of attention and kindness which could not have been exceeded if he had been himself a member of that family: and for once he has permitted himself to acknowledge the hospitality he experienced, during his long residence in the house of *Nordenfalk*, in terms of gratitude'. What becomes then of the observation, that the *Swedes* only shew their hospitality to a stranger so long as he may be considered as a stranger? At the same time, in describing the manners as well as the good qualities of the *Swedes*, there are some barbarous habits which cannot be overlooked. The elegancies, and even the comforts of polished life, are almost unknown in many parts of the country: hence it is that the middle class of females are not ashamed to use their fingers, instead of a pocket-handkerchief, in wiping their noses. *De Latochnaye*, of course, did not allow this practice to escape his observation: accordingly, we read the following facetious remark upon the use to which a pocket-handkerchief is applied by the female peasants of *Dalecarlia*; and it is also applied to other female peasants throughout the country:—
“Le mouchoir, en Suède, est diversement employé par les gens de différens rangs: en se rendant à l’église, les paysannes, qui sont communément proprement vêtues, ont un livre et un mouchoir blanc à la main, ce qui ne les empêche pas cependant de se moucher avec les doigts.” Add to this the abominable practice

(1) “Je quittai enfin la maison hospitalière de *Holm*, le cœur pénétré des attentions qu’on y avait eues pour moi.” *Promenade d’un Français en Suède*, &c. tom. II. p. 47. à *Brunswick*, 1801.

(2) *Ibid.* tom. I. p. 241.

practice, as in *Germany*, which is confined neither to rank nor sex, of spitting upon the floors of all the apartments. The sooner such habits are banished, the better; even the subject being, to an *English* ear, very revolting. We may therefore pass to the mention of other characteristics, more pleasing to enumerate; and bring this Chapter to a close. Nothing is more strikingly conspicuous in the disposition of a *Swede*, than simplicity of mind and sincerity of heart; but these qualities will be found to degenerate sometimes into great credulity, and a too easy confidence in the honesty of strangers. The *Swedes* are always open to imposition, and ready to follow the dictates of any leader, however sinister his designs may be. In the remotest provinces, upon the coming of a traveller who may want assistance, they advance their money without security; and rely implicitly upon the honour of perfect strangers to repay what necessity has demanded and hospitality has allowed without the smallest hesitation. These reflections occupied the author's mind, as he was preparing to leave *Upsala*, and to repair once more to *Stockholm*; while he ruminated upon the long tract of *Swedish* territory over which he had journeyed, and called to mind the people he had seen. From the *Arctic Circle* to the entrance into the *Baltic Sea*, the *Swedes* are, with little variation, the same. A remarkable uniformity may be considered as distinguishing not only the aspect of the country, but also the minds and persons of the inhabitants. A traveller who has been accustomed to remark the sudden change, in *Italy*, in passing the most insignificant natural or artificial boundary; who sees the people on one side of a bridge quite

Uniform aspect of the Country and its inhabitants.

a different

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a different race from those on the other; is surprised, in such a country as *Sweden*, when he finds the natives of the most distant provinces appearing as though they were all members of the same family.



Matthew, Sculpt.

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UPSALA TO STOCKHOLM.

Specimens from the Herbarium of Linnæus—Curious Wheel-lock Musket—Gamla Upsala—Skocloster—State of Stockholm upon the Author's Return—Character of the young King—Table-talk—Royal Fête at the Opera House—Evening's Adventure—Reflections on the Death of the former Monarch—Opening of the Sepulchre of Charles the Twelfth—Interruption of the amity between England and Sweden—Club called The Society—Resemblance to Italian Customs—Booksellers—Public Dinners—Interior of the Houses—Coffee prohibited—Anecdotes of the King—Probable Contents of the Chests at Upsala—State of Literature—Deplorable condition of the Country—Places of Public Amusement—Academies—Riots at Upsala—Royal Palace—Chapel—State Apartments—Picture Gallery—Private Cabinets of Gustavus the Third.

THE young Student, who, by his attentions here, had so amply made amends for his former rudeness to us in *Helsingland*¹, possessed, notwithstanding his Gothic manner and appearance,

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(1) See Part III. Sect. I. p. 550. Lond. 1819.

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Specimens
from the
Herbarium
of *Linnæus*

But

(1) Ibid. p. 552.

(2) They have been since presented to the *Fitzwilliam Museum*, in *Cambridge*, where they are now preserved.

(3) The first, as the autograph states at the back of it, grew in the *Botanic Garden* at *Upsala*.

1. *BISCUTELLA APULA*—a native of *Italy*, vulgarly called "*Spear-leaved Buckler-mustard*."—The plant is too well known to need further description.

2. *ARABIS ALPINA*. (*Flor. Lapp.* 257. p. 213. *Amst.* 1737.) commonly called *Alpine Wall-Cress*. It is a native of the *Alps*, and other mountains of *Europe*; being found on rocks, in caverns, and in woods. We found it often in the higher parts of *Lapland*. It was cultivated at *Oxford* in 1658; and is now become very common in gardens*.

3. *GNAPHALIUM SYLVATICUM*. (*Flor. Svec.* 675. p. 243. *Stockh.* 1745.) The "*Wood Everlasting*, or *English upright Cudweed*."—It grows in several parts of *England*.

4. LICHEN

* See *Miller's Dict.* by *Martyn*, Vol. I. (*Arabis*.)

But the most singular rarity of his apartment was an old wheel-lock musket which stood in one corner of the room, and which he told us one of his ancestors had formerly brought into *Sweden* from *Pomerania*. It was probably a part of the spoils of war: and as it seemed to us to be one of the most extraordinary works of art existing, and he wished to part with it, we bought it of him for the price at which he valued it. Once it must have cost an enormous sum; being in all respects fitted not merely to adorn, but to cut a splendid figure among the weapons of a regal armoury. To give a complete account of this curious relique, would require an entire volume, illustrated with an hundred plates. The whole of the stock, from the lower extremity of the butt to the muzzle of the barrel, is of ivory inlaid with ebony; representing, in a series of masterly designs, the Bible History, from the Creation to the time of David. The style of these designs is like that which may be often observed in old illuminated manuscripts, and in the wood-cuts copied from such illuminations; which seem as if they had been all borrowed from the works of the same master⁴. In the

4. LICHEN PHYSODES. (*Flor. Svec.* 951. p. 346. *Stockh.* 1745.) The well-known Moss of the Birch-tree.

5. LICHEN VELLEUS. This was found by *Linnaeus* upon the *Lapland* rocks. (*Flor. Lapp.* 454. p. 345. *Amst.* 1737.) In his *Flora Svecica* (*vid.* 968. p. 353. *Stockh.* 1745.) he says it is common near *Upsala*.

(4) Beginning from the muzzle of the musket, and proceeding from left to right towards the butt, and back again, the whole length of the opposite side of the stock, there are nearly one hundred pictures exhibited by means of exquisitely inlaid ivory. The first delineation represents the Animal Creation; then follows the Creation and Fall of Man; the Expulsion of the Human Race from Paradise; their Agricultural Labours; the

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the representation, for example, of the creation of mankind, the Deity is pourtrayed in the dress of the Pope, handing Eve out of Adam's side¹: yet there are parts of the workmanship equal to the performances of *Albert Durer*, and which exhibit characteristic marks of the age in which he lived².

*Gamla
Upsala.*

Before we left *Upsala*, we should have visited the village of *Gamla Upsala*, distant about five *English* miles north of the modern city, if there had been any remains of antiquity there worth the trouble of making an excursion on purpose to view them. In our former journey from *Upsala* to *Gefle*, we had before passed in sight of the village church; near to which are the three remarkable *tumuli* represented in the *Vignette* to the preceding Chapter, and which tradition has assigned to the bodies of *Odin*, *Frigga*, and *Thor*. Nothing can be more obscure than the history of the first kings, or divinities as they are often called, of antient *Scandinavia*; in which, the more we seek for information, the farther we seem to recede from all hope of coming at the truth. A great source of error has been caused by confounding the *Teutonic* with the *Celtic* nations, which were, *ab origine*, two distinct people³. Conical heaps raised over the dead are generally

Celtic

the Death of Abel; the History of Noah; the Deluge; &c. &c.—the whole being considered, in all probability, as a connected series of powerful amulets, calculated to protect the bearer of this musket from all dangers “ghostly and bodily.”

(1) See the account of a splendid MS. in the Mostyn Library in *Flintshire*, as communicated by the Author to the celebrated *Pennant*, for his “History of the Parishes of *Whiteford* and *Holywell*,” p. 74. *Lond.* 1796.

(2) A *Vignette* prefixed to this Chapter will serve to shew the form of this curious weapon, and also one of the numerous representations upon the stock.

(3) See *Mallet's Northern Antiquities*, Pref. to Vol. I. *Edinb.* 1809.

Celtic sepulchres; but in the rarity of *Celtic* monuments in *Sweden* and *Norway*, added to other circumstances conspicuous in the appearance of the ground about the supposed sepulchres of *Gamla Upsala*, which have never yet been opened, or in any way duly examined, there is reason to suspect that these will hereafter be found to be natural elevations, and not artificial heaps. A little time spent upon the spot may hereafter enable some curious traveller to ascertain the real nature of those *tumuli*. If they should be proved to be places of burial, there is little probability of their having been constructed by the ancestors of the present race of *Swedes*, who in the period when such mounds were raised over the dead in the north of Europe were not inhabitants of *Sweden*. At a much later period in history, when *Mithradates* sought for refuge in those deserts of *Russia* now inhabited by the *Don Cossacks*, the followers of *Odin*, being obliged to withdraw themselves from the vengeance of the *Romans*, began to seek, at this distance from the field of *Pompey's* triumphs, that safety which they could not find in their own country⁴.

We now took our last leave of *Upsala*, and set out again for *Stockholm*, through an open, flat, and fertile country. We passed *Skocloster*, as in our former journey, on the *Skocloster*. right,

(4) *Mallet* makes their principal city, at that time, *Asgard*, between the *Black Sea* and the *Caspian*; considering them as the *Ases*, a race of *Scythians*; and thinks there is reason to believe that *Azof*, or, as he writes it, *As-of*, derived its name from this nation. But who will venture into an inquiry where, as he judiciously observes, "the most profound researches, the most ingenious conjectures, discover nothing to us but our own ignorance."

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right, the seats of the Counts of *Brahe*, one of the oldest families in *Sweden*. In the house there is a curious collection of antiquities and other rarities, which are esteemed worth seeing. It lies out of the main route. In this part of our journey we observed, upon the eastern side of the road, a few reliques of the primeval inhabitants of the country; such as, rude upright masses of stone and *tumuli*, which seemed to be sepulchral mounds.

The political events of the day, upon our return to the Capital, will have lost all interest, from the length of time that has elapsed before the publication of this part of our Travels; but as they are intimately connected with the *Swedish* history, we shall not entirely omit the mention of them. A number of express couriers, passing us upon the road, had already apprized us of the birth of the young Prince, which had just taken place; messages being despatched with the intelligence to all parts of the kingdom. He was born on Friday, *November 8th*; and afterwards christened by *Troil* archbishop of *Upsala*. We arrived upon the 16th. Some slight disturbances had taken place, which were very generally the subject of conversation. Upon the day appointed for the celebration of the birth of his Majesty *Gustavus the Fourth*, the shopkeepers of *Stockholm* had given a dinner to the *French* Consul. Among other ceremonies at this *fête*, two busts had been prepared, and publicly exhibited; the one of *Buonaparte*, and the other of Field-Marshal General *Suwarof*. The company drank bumpers of wine to the health of *Buonaparte*, but filled their glasses with water when *Suwarof's* health was proposed,

State of
Stockholm on
the Author's
return.

proposed, and discharged their contents in the face of his bust. At this the King had been so much displeased, as already to shew the most marked resentment towards some of the offenders. *Dupuis*, leader of the opera band of musicians, was banished the kingdom. One of the comedians was also ordered to quit the country ; together with *Robinhof*, master of the tavern where the dinner was held. It is necessary to state these particulars, in order to explain what happened at the Theatre as soon as we returned. The King was present; when the comedian here alluded to, in the part he acted, held a dialogue with an actress as a chambermaid, who addressed him in the following manner :—

“ Begone ! what are you doing here ? You must be sent away.”

To which he answered :

“ It may be so : but I shall not stir. I am very well where I am, and intend to remain here.”

At the delivery of these words, a sudden and very vehement applause burst from the audience. The King, evidently ruffled, rose from his seat, waving his hand, and calling silence : but the applause became louder than ever, and his Majesty sate down disconcerted. The actor, it seems, had been ordered into exile ; but had not been banished, because the King owed him above a thousand dollars. After the piece concluded, the debt was paid, and the player was ordered to leave *Stockholm* within twenty-four hours. We had frequent opportunities of hearing the King’s character discussed. He was said not to have any private intimacies, nor to have been influenced by any of those creatures called

Character of
the young
King.

CHAP. VI. *favourites*, because he never had one. He superintended and directed every thing himself; consequently every thing was mismanaged. The state of the public finances was becoming daily more and more deplorable: and this was to be expected, where so young a monarch presided over and governed all things, endeavouring, upon all occasions, only to shew how completely absolute he was. His Ministers, moreover, were men utterly incapable of rendering him any effectual counsel, if they had been consulted,—which was not the case. One day, the merchants of *Stockholm* waited upon him, to represent the ruin that would inevitably befall them, if the public credit were not retrieved: to which the young monarch replied, that “it was not for a set of commercial men to trouble their heads with such matters;—that he had already considered their situation, and had taken proper measures to prevent the evil from taking place.”

When the Queen's *accouchement* drew nigh, according to the usual ceremony of etiquette observed more or less in many Courts, but rigidly adhered to in *Sweden*, the King, the Duchess of *Sudermania*, and other exalted personages, amounting in all to twenty persons (among whom were some unmarried men), were stationed about her person, to become the spectators of her pains and delivery. It was said, that, with a view to avoid the indecency of such an exposure, the late Queen kept the moment, when her throes were coming on, a secret; by which means she escaped a public *accouchement*. At this time, no persons in *Stockholm*, who affected to be versed in State secrets, or who, from their situation,

situation, might be supposed to possess accurate knowledge with regard to such matters, regarded the reigning sovereign as the son of his predecessor. The Courts of despotic Princes are generally the very hot-beds of every species of revolting slander; and, in the list of these, the Court of *Sweden*¹ was peculiarly conspicuous for the foulness of the calumnies which were set on foot against every individual about the throne. We shall neither sully these pages, nor offend the Reader, by detailing the opprobrious anecdotes which were everywhere in circulation respecting these august personages: but as the similitude which the reigning monarch was supposed to bear to General *Monk*, a friend of the late King, who was banished from the *Swedish* Court during the Regency, was often urged, in table-talk, as a proof of the relationship in which he stood to this officer, it would not be consistent with that freedom of communication which has been shewn in conducting the whole of this narrative, if no allusion were made to the fact. We could neither confirm nor contradict the truth of the supposed resemblance, having

Table-talk.
never

(1) It may be said that the government of *Sweden* was not wholly despotic. Mr. *Coxe* considered the King of *Sweden* as a limited, but not a despotic sovereign. (*See Travels, &c.* vol. II. p. 372. Lond. 1784.) But the same author acknowledges (p. 369) that “the whole of the executive power is virtually vested in the King: for though it is said to be entrusted to him conjointly with the Senate, yet, as his Majesty appoints and removes all the members of that council, and, in the administration of affairs, asks only their advice, without being bound to follow it, he is absolute master of the Senate.” *Sheridan* (*Hist. of the late Revolut. in Sweden, &c.* p. 301) considered the King of *Sweden*, after the Revolution in 1772, as “no less absolute at *Stockholm*, than the Grand Signior at *Constantinople*.”

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never seen the officer to whom allusion is made. The generality of the *Swedes* considered the features of *Gustavus the Fourth* as a striking resemblance of the portraits of *Charles the Twelfth*: and, after examining the cast¹ made of the face of *Charles*, we were struck by an evident family likeness; which, at least, goes to prove, that if such indications of descent be worth attending to, there is as much to urge for, as against, his legitimacy. For the rest, in his figure, *Gustavus the Fourth* was thin, and apparently feeble, with a pale countenance. He looked most advantageously when dressed in regimentals; and worst of all when he appeared in the effeminate gala suit which the late King had introduced into the *Swedish Court*;—a style of dress better suited to mountebanks or stage-players, than for the representatives of the warlike *Goths*!

Royal Fête at
the Opera
House.

Upon the 21st of *November*, the entertainments of the evening at the Opera House were given gratis by the King to the public. To gain admission, it was only necessary to go in full dress; and we were present upon that occasion. The *coup d'œil*, upon entering the theatre, was very brilliant. The boxes consisted of five tiers of seats; the ladies being ranged in the front rows. The stage was lighted by two large

(1) This will be further described in the sequel.

(2) Dr. Thomson, who has written a very interesting chapter on the Character and Conduct of *Gustavus the Fourth*, says that the likeness to *Charles the Twelfth* was not confined to his person, but that he possessed certain qualities which gave him a moral resemblance to that prince. (See Thomson's *Travels in Sweden*, p. 115. Lond. 1813.) See also the Portrait of *Gustavus the Fourth*, engraved for Dr. Thomson's work, which is a striking likeness of him.

large cut-glass chandeliers, which were drawn up when the curtain rose. In the centre of the pit, upon a platform covered with green cloth, were placed two gilded chairs, for the reception of the King and Queen. Her Majesty being at this time in child-bed, the King alone made his appearance. Many of the State officers were stationed waiting for his arrival, when we entered the theatre. At each side of the entrance to the pit were placed the King's Guards, in pompous theatrical suits of blue cloth, with polished coats of mail, and enormous helmets surmounted by tall plumes; producing altogether the most grotesque effect, by combining somewhat of the manly chivalrous aspect of the warriors of antient days with the wretched effeminacy and scenic taste of the modern Court. It was enough to rouse the ghost of *Gustavus Vasa*, to view the heroes of *Sweden* in this deplorable disguise; wanting only their cheeks painted, to fit them for a booth at Bartholomew Fair. While we were thus intent upon the motley figures of the soldiers, a bustle in the orchestra, and a general movement among the Guards, announced his Majesty's approach; who entered, followed by the *Duchess of Sudermania*, and several of his retinue, dressed in the absurd and fantastic manner which we have before alluded to, but strictly according to the regular *costume* of his Court; wearing, beneath a cloak, a jacket of yellow silk, and large yellow roses in his shoes: and, as if to afford the most striking contrast possible to his own appearance, and to render it still more ludicrous in the eyes of the spectators, he was followed by a gigantic attendant in complete armour, the enormous

plumes

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plumes of whose helmet, towering aloft, threatened to bury the diminutive and meagre figure of the King. The audience immediately rose, but the utmost silence was observed. His Majesty, advancing towards the regal chair, was for some minutes engaged in bowing to all present; to the audience in general, and to all the foreign Ministers in particular. Then making, with his *chapeau bras*, a signal to the musicians in the orchestra, the band began to play; and he sate down. Between the acts of the opera, he was occupied chiefly in conversation with the Duchess his aunt, and the *Russian* Minister; and his marked attention to the latter was noticed by the generality of those present, who were interested in the politics of the day. Having been accustomed to see him before only in his regimentals, we hardly recognised him in his Court dress. When he sate down, he wrapped his silk cloak about him, thus giving to this part of his attire the appearance of a petticoat, beneath which peeped his coloured shoes set off with large yellow rosettes; so that his whole figure, truly feminine, might have been mistaken for a female. During this evening's entertainment, an adventure occurred which will afford a specimen of the national manners. Two *Italian* gentlemen, with whom we were intimately acquainted, Signor *Acerbi*, author of *Travels in Sweden, Lapland, and Finland*, and his young companion, Signor *Bellotti*, were seated in the box of the *Prussian* Minister. These gentlemen, after the close of the first act of the opera, finding that no ladies had arrived to occupy the front seat, ventured, having first asked permission of the Minister to whom the box belonged, to place themselves in the front row, and

and thereby obtain a better view of the King and of the stage. They were habited in plain black suits, which, as it is well known, are often used abroad, by way of substitute for the full Court dress. It may be imagined what their uneasiness was, in finding that they had no sooner seated themselves in their new places, than they were become an object of uneasiness to the royal party stationed in the pit. The Duchess of *Sudermania* was observed to regard them for some time with apparent agitation; and at length, speaking to the King, his Majesty was pleased to order that a corporal of the guard should be sent to remove them from their station. But the Director of the theatre, to whom this order was given, being well acquainted with them, went up, and represented to them his Majesty's disapprobation of their appearance in the front rank, without having on the full Court dress; desiring them, at the same time, not to retire from the theatre, but to sit backward, so as to escape further observation from below. Some of the audience, witnessing this transaction, thought proper to insinuate that his Majesty mistook the two *Italian* gentlemen for *Englishmen*;—there being at this time a slight misunderstanding between our Court and that of *Sweden*, in consequence of the neglect which it was said his Britannic Majesty had shewn to a Letter written by the *Swedish* Sovereign respecting the capture of a *Swedish* convoy. This circumstance had rendered it difficult for our countrymen to obtain a presentation at the *Swedish* Court; as our Minister had ceased to make his appearance there, and had been omitted in the invitations recently sent

to

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to the different foreign Ministers. Whether there were any truth in the supposed intention of the young King and of his aunt, to offer this indignity with any feeling of hostility towards our countrymen, we did not give ourselves the trouble to inquire. The affair served to afford a momentary topic of conversation in the different circles: meanwhile, we experienced everywhere the same kindness and hospitality which we had invariably met with since our first arrival in the country.

Little needs be said of the style of the performance at a *Swedish* opera. The singers and dancers are equally below mediocrity. The band is generally good, and the music well given. The management also of the scenery, owing to the great pains bestowed upon the most trifling theatrical concerns during the reign of the late King, still reflects credit upon the mechanist who is employed. For our parts, during the whole of this evening's representation, neither the splendours of the Court *gala*, nor the presence of the Sovereign, nor the stage decoration, could abstract our thoughts from dwelling upon the horrible tragedy which was acted here. The assassination of the late king, with all its cruel atrocities, dwelt full upon our minds;—and who could say how soon, or how late, the same sanguinary scene might not be renewed? The young *Gustavus*, seated, in his silken vest, upon the very floor stained with his father's blood, and surrounded by the same courtiers, seemed, from all the circumstances of his situation and character, marked to become another victim of the plots and conspiracies that were going on: and wonderful to us appeared the calm and placid

Reflections on
the death of
the late monarch.

placid indifference with which the young monarch sat occupied in attention to the turn of an Italian Rondo, or busied in enforcing some trivial rule of Court etiquette, upon the identical spot yet almost reeking with the murder of his father.—But we had not yet visited RUSSIA!!!

Desmaisons, the celebrated author of an Essay on the Revolutions of *Sweden*, in developing from national character and foreign political interests the true sources of those changes which have successively agitated the *Swedish* dominions, has also unconsciously pointed out the steps which ultimately led to the death of the very Sovereign who accomplished the most remarkable of all the revolutions the country has sustained'. Can it be supposed that an event of such immense political importance, reflecting such a distinguished lustre on the character of *Gustavus the Third*, and such dismay upon his adversaries, would be speedily forgotten; or that the hatred towards him, increased by the annihilation of the self-interested projects of a party, ever slept, so long as any of that party continued to exist in *Sweden*, and to hold communication upon the subject of the loss they had sustained? It only taught them to be more circumspect in carrying on their designs against the King's life than they had hitherto been in executing their former projects. In our long journey through *Sweden*, we often endeavoured to procure

(1) See "*Histoire de la dernière Révolution de Suède*," par Jacques Le Scène Desmaisons. Amst. 1782.

(2) *Gustavus the Third* was twenty-five years old when he was proclaimed King, the year before the Revolution of 1772.

CHAP. VI. procure accurate information relative to the real authors and abettors of the conspiracy which ended in his assassination by the hand of *Ankarström*; but the circumstances respecting it were either told with the most evident exaggeration, or with an air of studied and stupid mystery, which, bordering upon affectation, prevented further inquiry. From all, however, that we could collect, notwithstanding the difficulty of coming at the truth, it seemed plain that the conspiracy had been going on for a long time before its object was accomplished in the death of the King, and that the inhabitants of the most distant provinces in the realm were engaged in its operation. The only wonder is, that where the number of the disaffected was so numerous, a secret of such moment could so long remain concealed. Some of the *Swedish* gentry maintain that the number of the conspirators exceeded a thousand. Judging only from the facts which have transpired; from the conduct of the enemies of the King, and of suspected persons before and after his death; there is good reason to believe that individuals the most distinguished by their rank, by their relationship to *Gustavus*, and also others who pretended to class among the number of his most intimate friends, were implicated in his murder. We could not help thinking, that in the crowded assembly we now beheld, and perhaps among those who were in immediate attendance upon his son, there were persons well qualified to dispel all doubts upon this subject.

Opening of
the Sepulchre
of Charles the
Twelfth.

A few days after this *fête* at the Opera House, we went to RIDDERHOLM CHURCH, to see the sepulchre of *Charles the Twelfth*,

Twelfth, which had been opened by order of the young King. In the uncertainty which has always prevailed respecting the death of this hero, his remains have more than once before been submitted to examination, with a view of ascertaining, from the appearance of the scull, whether the wound which caused his death were inflicted, or not, by the hand of an assassin. Perhaps it was this curiosity on the part of the Sovereign which caused the tomb to be again violated. We arrived in time to see the coffin, which had been also opened, but was now closed. In removing the principal slab of black marble placed over this coffin, the workmen had broken it near the corner, and masons were repairing it when we came to the spot. The coffin, meanwhile, was exposed to view: it was covered with crimson velvet, and adorned with gold fringe. We observed that it was still in as perfect preservation as when the burial took place; the fringe being so strong, that we had difficulty in pulling off a few threads to bear away as a memorial. Some of the party present complained of an unpleasant odour coming from this coffin; but we considered it as imaginary, the sepulchre having been some time open, and the coffin carefully closed immediately after the King's visit. *Ridderholm Church* is the regal cœmety of the Kings of *Sweden*. All the Knights of the order of *Seraphim* are also buried here; and many of the principal families of *Stockholm* have their vaults in this church.

We waited upon our Minister soon after our return to the Capital, and received from him the intelligence of the unpleasant state of affairs between our country and *Sweden*,
which

Interruption
of the Amity
subsisting be-
tween *Eng-
land* and *Swe-
den*.

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Club called
The Society.

which seemed likely to end in a war. This, of course, prevented our appearance at Court ; but, in lieu of a presentation to his Majesty, he proposed taking us to the SOCIETY, and introducing us there to the different ambassadors, nobles, and officers of distinction, which constitute its members. This Club is the greatest resource a stranger in this country can possibly enjoy : it is regulated upon the best principles, and kept in the most perfect order. Its meetings are held in one of the grandest edifices in *Stockholm*, fronting the water, and commanding a noble prospect of the principal buildings of the city. Being conducted thither, we entered a suite of magnificent apartments, elegantly furnished, and in all respects remarkable for the neatness and propriety everywhere displayed. One room is appropriated to reading : and here all the principal Gazettes published in Europe, together with all sorts of periodical works, *French, German, Danish, and Dutch Papers*, are found lying upon the tables, for general use. There is, moreover, a *secrétaire*, fitted up with all sorts of conveniences for writing. Every evening, all these apartments are lighted up with wax candles. In the reading room, the most perfect silence prevails ; and in a chamber adjoining, there are couches for repose. Beyond this is the ball-room ; and farther on are separate rooms for billiards, cards, and for eating. In the ball-room are suspended the printed rules of the Society, in the *French* and *Swedish* languages. Strangers are permitted to enjoy all the privileges of the club during two months ; but if they remain longer in *Stockholm*, they must be presented a second time and become members, or be excluded. Every member subscribes twelve rix-dollars annually

annually to the fund. The dinners and suppers here are excellent, every thing being cheap and good, and the expense small. A dinner, without wine, costs only sixteen-pence *English*; and until lately the price was lower. The servants of the *Society* speak *French*, *German*, and *Swedish*; and are all clad in the livery of the club. There is, moreover, always in waiting a *Directeur*, or *Maitre d'hôtel*, who superintends all minor affairs, attends at and directs the order and serving of the dinners, and collects the payment due from the several guests. The apartments remain open during the whole day. We have seldom enjoyed a more pleasing relaxation, or met with more agreeable company than we found here. Having several friends with whom we used to associate at the *Society*¹, we came daily to this place; and, in fact, there is no place in Europe where foreigners engaged in travel will meet with better company, more polished manners, or less restraint. Add to this the luxury of being, for once at least in *Scandinavia*, in an assembly where smoking and spitting are not allowed. The most perfect order prevails in all the apartments; every one being at liberty to enter, or retire without form, as he pleases². Some persons belonging to the Court, who were proposed as members, had been rejected in the

(1) In this number were, the celebrated *Brougham*; *Acerbi*, the *Lapland* traveller; Mr. now Sir *Charles Stewart*; the Rev. Mr. *Kent*, and Mr. *Jarrett*, whom we had before seen in *Norway*; and Mr. *Bellotti*.

(2) An establishment of this nature, under the name of "*The United Service Club*," has been lately founded in *London*, which seems to be conducted upon a similar plan.

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the ballot ; at which the King was much displeased, and endeavoured, as it was said, to withdraw the courtiers from their attendance. If this were true, it had not produced the desired effect ; for the numbers, instead of being diminished, had lately been considerably increased ; the first families in *Stockholm* being the most regular visitants.

As in all large cities, the traveller must expect to meet with less of the characteristic hospitality of the *Swedes* in *Stockholm*, than in other parts of the kingdom¹; and it is here, in particular, that his reception will a good deal depend upon the relative state of politics with regard to his own country. We found our situation somewhat altered, since our last visit, by the degree of coolness which had sprung up between the Court and our Minister. Neither is there much in the place itself to afford instruction or amusement. Excepting the great square of *Nordermalm*, the streets, though of very considerable length, are neither broad nor handsome. There is no foot pavement ; and the shops are everywhere wretched. The houses are lofty, and they are all white-washed. The different families, as in *Italy*, reside upon separate floors, or stories, one above another ; the ground-floor being appropriated to shops, and the upper stories to private families. There is, moreover, a resemblance between the customs of the two countries. If a stranger have any business to execute among the tradesmen, and be not careful to set about it before noon, the whole day is

Resemblance
to *Italian*
Customs.

(1) " Plus on s'approche de la capitale, moins on aperçoit cette respectable bonhomie, qui caractérise généralement le paysan Suédois des provinces." *Promenade en Suède, par De Latochnaye, tom. I. p. 62. Brunswick, 1801.*

is lost. At mid-day, every body is at dinner: the merchants have then left their counters, and the shops are shut. Afterwards they are all fast asleep; which at this season of the year is the more inconvenient, because as soon as they awake it is dark. Two hours may be deemed the whole of the time allowed for daily affairs abroad,—from ten in the morning until twelve. Before ten it is not usual for families to make their appearance; and if after this time a traveller remain in his lodgings, engaged as he is very likely to be with his own private affairs, it is in vain that he endeavours afterwards to get any thing done in the town.

One of the first things it is natural to seek for, in arriving at any place upon the Continent, is a bookseller's shop: but the booksellers here have no catalogues; or if any thing of this kind be produced, it is written wholly in the *Swedish* language. And with regard to the dealers themselves, never were persons of their profession so little likely to recommend their wares, as the booksellers of *Stockholm*. If a customer enter, they rise not from their seats to assist him in looking over the dusty lumber of their warehouses: and if they were disposed to shew him this civility, the search would be vain; because the books, not being bound, but lying in quires, and confusedly mixed together, can only be regarded as so many reams of paper in a stationer's shop.

Booksellers.

When *Englishmen* are invited to dine with the inhabitants, it is a constant practice to prepare a quantity of what is called *roast beef* for their reception at table: and the opinion which

Public
Dinners.

CHAP. VI. which all foreigners have, that we cannot dine without a copious allowance of animal food, especially of beef, is very diverting. The host gathers consequence to himself in having provided this kind of diet, and, smiling at his guests, calls out, in an emphatical tone, '*Rosbif!*' (for so it is generally written and pronounced) as the mangled heap of flesh which bears this name is handed round; not having the smallest resemblance to any thing so called in *England*, but consisting of lumps of meat piled upon a dish, tough, stringy, and covered with grease. Of this if you do not eat heartily, offence is sure to be given. In fact, if an *Englishman* wish to render himself agreeable to the *Swedish* gentry, he ought to prepare himself by fasting for at least two entire days before he visits them. If he do not devour every thing that they set before him, and with a degree of voraciousness proportioned to their good wishes for his making a hearty meal, he will never give satisfaction. We have before alluded to these remarkable traits of the national character: they carry us back, in imagination, to those Gothic festivals, when animals were roasted whole, and the guests were served with heaps of flesh by attendants in complete armour, who carved with their swords: and they serve also to remind us of those fables of the *EDDA*, or antient *Icelandic Mythology*, in which to eat voraciously is described as a qualification, worthy not only of a warrior, but of a God'.—

We

(1) "LOKE then said that his art consisted in eating more than any other man in the world, and that he would challenge any one at that kind of combat.—'It must indeed be owned,

We met with an instance of the dissatisfaction given by the want of this qualification, where we least expected it; namely, in the *Directeur* of the SOCIETY. We might have supposed that the less the company devoured at his table, the greater would have been his profit, and of course the higher his gratification. But even here, seeing the Author refuse to partake of a dish which one of the servants brought to him after he had completely dined, the *Directeur* exclaimed, as he retired, in a tone loud enough to be overheard, with true *Swedish* feeling and with a broad oath, "What, you are determined not to touch a morsel! Has it been usual with us to set before you despicable food?"—The instances of offence given in this way were alluded to in a former volume*; and the subject would be deemed too trivial for repetition, were it not essential to the due representation of the manners and customs of the inhabitants. The style of a *Scandinavian* dinner we have before described, in our account of *Norway*; for in this respect there is not much difference between the two countries. No person, on any account, is permitted to touch,

owned,' replied the King, 'that you are not wanting in dexterity, if you are able to perform what you promise.' At the same time he ordered one of his courtiers who was sitting on a side-bench, and whose name was LOKE (i.e. *Flame*), to come forward, and try his skill with LOKE, in the art they were speaking of. Then he caused a great tub or trough full of provisions to be placed on the bar, and the two champions at each end of it; who immediately fell to devour the victuals with so much eagerness, that they presently met in the middle of the trough, and were obliged to desist. But LOKE had only eat the flesh of his portion; whereas the other had devoured both flesh and bones. All the company therefore adjudged that LOKE was vanquished."—*Edda, or Antient Icelandic Mythology*. See Mallet's *Northern Antiquities*, vol. II. p. 90. Edin. 1809.

(2) See Part III. Sect. I. Chap. XV. p. 341. Lond. 1819.

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touch, or offer to his neighbour at table, the contents of the dishes that are placed before him. They are all removed, and brought round to the guests one after another in a regular order; consequently the business of dinner lasts two or three hours;—the longer, the more consistent with a splendid entertainment. Before sitting down, when the company are all stationed in their places at the board, a pause of total silence ensues; and this, after continuing for the space of a minute, is interrupted by a bow from the host, which is the signal for every one to become seated. The mistress of the house is conducted from the drawing-room by the person of the greatest rank present; the rest of the gentlemen each taking a lady, as with us. The ceremony of the *whet* before dinner, which is universally practised over all the North of Europe, takes place in an adjoining room, a few minutes before dinner is announced: there the company eat *caviare*, turnip-radish, raw turnip or carrot, or a bit of some salted fish, and take a dram of brandy, by way of provoking an appetite; and this they do as heartily as if they were making a meal;—like the inhabitants of some part of *Scotland*, who swallow a hot sea-gull, or kiddy-wake, full of fish-oil, for the same purpose. The master and mistress of a family have no particular place assigned them at their own table, but mix with their guests, and generally sit at one of the sides. This custom, perhaps, is an imitation of French manners. When the company rise after dinner, the same pause and silence ensues as before; after which, the bow being again made, the gentlemen salute the hand or cheek of the mistress of the house, and shake hands with the master. These customs and ceremonies

ceremonies are the same everywhere, whether in the mansions of the nobles, or the dwellings of more private individuals. CHAP. VI.

The principal article of furniture in every apartment is a stove, which is generally large, and covered with Dutch tiles. In the houses of the great, these stoves are sometimes formed so as to represent the pedestal of a column, and then they often support a statue; or if not so ornamented, they reach to the cieling of the room. Where the stove and flues are solely formed of iron, and not properly encased with stone, tiles, or stucco, a close disagreeable smell is caused in all the rooms: to obviate this, the inhabitants frequently burn perfumes, or place a scented *pot pourri* upon the stoves. The most insignificant article of their furniture cuts a more imposing figure in *English* houses,—where, however, it is never publicly exhibited,—namely, the bed; this is generally small, uncomfortable, and more like a mere couch for a drawing-room than for a place of repose at night. In the lodgings of single men, it is always seen as a dirty and unpleasant spectacle; not made up during the first half of the day, and offensive to more than one of the senses during the other. The windows of the rooms, in the best houses, are doubly glazed; and hung with long shreds of coarse gauze, by way of representing what they are not; that is to say, curtains; being about a quarter of a yard wide, and of course merely ornamental. The walls are hung with painted canvas, sometimes in imitation of India paper; at others, in panels, after the French taste. The floors are also painted.

The prohibition respecting the use of *coffee* was at this time so strictly observed in *Stockholm*, that in genteel families

Coffee
prohibited.

it

CHAP. VI. it was never presented: in some of the inns they offered it to strangers in a contraband way. We have seen even the most gay and dissipated of the young *Swedes* refuse to drink it, when invited by a company of foreigners who have had it before them. The use of *tea* had been substituted in its place. This beverage the *Swedes* call *Te-Watn*, or *Tea Water*; a very appropriate name for the infusion, as *they* prepare it; for, in general, that which they offer under this name is nothing more than warm water served in small tea-cups.

Anecdotes of
the King.

Soon after the prohibition respecting coffee had been issued, his Majesty's own *valet de chambre*, a man of tried fidelity and very amiable character, either through some inadvertence on the part of his servants, or a momentary thoughtlessness in himself, having invited a party to visit him at *Dröttningholm*, was known to have violated the prohibition; coffee having been served upon that occasion. The next morning, one of the attendants, from a desire to supersede the valet in his place, and actuated by envy at the confidence reposed in him by his royal master, informed his Majesty of the transaction. The King took no notice of it at the time; but when his valet came to undress him, he said, "Is it true that you gave coffee to a party which visited you from *Stockholm*, yesterday evening." "It is but too true, sire," said the valet, "and I saw the extent of my transgression in the moment it was committed." "Well," said his Majesty, "go now to the Intendant of the Police, and tell him what you have done, and pay the penalty¹; and then come

(1) One rix-dollar for every cup of coffee used.

come back to me.”—When the valet returned, and the King found that his orders had been obeyed, he sent for the informer, and thus addressed him. “My valet confesses he has been guilty of violating the prohibition with regard to coffee, as you told me he had done; and he has paid the penalty for so doing. It is therefore only necessary for me to add, that in future I shall have no further occasion for your services.”

Another circumstance also occurred, which placed the character of *Gustavus the Fourth* in a very amiable light;—and we can vouch for the truth of both of them.

A *Swedish* Colonel, by an accidental fire which consumed his house, lost the whole of his property. Some time after, a lottery was set on foot by his friends, to reimburse him. In the opening of this business, a letter arrived from *Pomerania*, inclosing one hundred and fifty rix-dollars, without the name of any donor, but with a short note, requesting that the Colonel would remember the “*broken punch-bowl*.” It was a long time before he could unravel this mystery; but at last he recollected that many years before, being in a tavern where there was a great concourse of people and much rejoicing, a female servant dropped from her hands a large China punch-bowl full of punch. Her mistress, in violent anger, threatened her with instant dismissal, and that she should be sent to prison if she did not make good the loss: upon which the Colonel interceded in behalf of the poor girl, and himself paid for the damage which had been sustained. This curious anecdote becoming the subject of conversation in *Stockholm*, at length reached the ears of the King.

CHAP. VI. King. *Gustavus* was much pleased with it, and sent a present of one thousand rix-dollars, with this message: "I am aware that the Colonel's friends have instituted a lottery upon his account. It is prohibited, by the laws, to undertake any lottery, without previous permission from the Master of the Police. Tell the Colonel I know that officer; that he is an humane and polite man, not likely to refuse a reasonable request: it is my wish that the Colonel should ask his permission for the lottery, that I may be enabled to bear a part in it."

We have the more readily inserted these traits in the character of the reigning monarch, because the anecdotes related of him, in general, were neither numerous nor interesting. Having no favourite, and relying altogether upon his own judgment, which however was very incapable of guiding him, it was not easy to penetrate the reserve that shrouded his private life from observation. The few things that had transpired afforded a favourable view of his disposition. From his earliest boyhood he was little disposed to familiarity with any one. When only eight years of age, he attended *Gustavus the Third* to a grand Council. Upon this occasion, stepping before his father as he advanced to the regal chair, and placing himself upon it, he repeated, with affected gravity, a passage from one of the *Swedish* tragedies:—"Let us sit on the throne of our ancestors." The King, instead of being pleased with his son's humour, seemed rather piqued; and abruptly handing him down, said, "Come, come, young usurper! there will be a more proper season for these sentiments, when I am gone!"

With

With regard to other stories circulated in *Stockholm*, respecting either the young Sovereign or his fair consort, as it was impossible to give credit to them, so it will not be necessary to relate them. The general tenor of all of them was to represent the King as a haughty, imperious, but benevolent man, destitute of sound judgment and literary talents; without any love of the Fine Arts, but desirous of enforcing strict obedience to the laws, both by precept and example: and the Queen as a giddy cheerful romp, more disposed towards laughter than serious reflection, who would prefer a game at blindman's buff to any State ceremony, however splendid the situation she might be called upon to fill.

We met with a bookseller in *Stockholm* who assured us—and we saw no reason to doubt the truth of what he said—that he had often been employed by the late King, *Gustavus the Third*, as his amanuensis. He declared that he assisted that monarch in arranging and in copying many of the manuscripts now deposited at *Upsala* under such strict injunctions of their being kept secret until the time arrives for opening the chests containing them¹. He seemed well acquainted with the nature of these manuscripts; and, as his character is highly respectable, and the information he afforded was given without the least solicitation on our part, it may perhaps be worth attending to. The most important part of these papers, he said, as written by *Gustavus the Third*, contains the History of his own Times; composed with a depth of political knowledge, and most profound reflection, such

Probable contents of the Chests at *Upsala*.

(1) See the former Chapter.

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such as might be expected from his uncommon talents and observation. This History, together with the State Papers necessary for its illustration, probably make up the principal part of this mysterious deposit, which has excited so much curiosity.

State of Literature.

The state of literature in *Sweden* has been less promising since the death of *Linnæus* than that of any other country in Europe. In the sciences, however, *Chemistry*, in spite of every obstacle to which it has been opposed, in a country wanting many of the conveniences necessary for its progress, and all the patronage essential to its encouragement, has made rapid advances¹. The chemical discoveries of the *Swedes*, in all their Universities², redound greatly to their honour. Yet the science of *Mineralogy*, connected as it is with *Chemistry*, is hardly anywhere at a lower ebb than in *Sweden*: and *Geology* may be considered as not having yet been introduced into that country; since we cannot bestow the name of *Geology* upon those testimonies of its presence which the *Swedes* sometimes exhibit under the names of *Geological Cabinets*. *Botany*, moreover, seemed to us to be fast declining; as if all its blossoms had drooped and died with its great master. Other branches of knowledge appeared to be involved in the same fate. History, Metaphysics, Laws, Languages,

(1) Witness the surprising talents of *Berzelius*; himself a host, filling all *Europe* with admiration of his great abilities, and gratitude for the importance and profundity of his researches. Witness also the discoveries made by his pupil, *Arfvedson*. Not to omit a tribute due to the names of *Ekeberg* of *Upsala*, *Gahn* of *Fahlun*, *Hisinger*, *Hjelm* of *Stockholm*, and many others.

(2) The name of the University of *Abo* would hardly have been known in the rest of *Europe*, but for the chemical discoveries of *Gadolin*.

Languages, Music, the Belles Lettres, were only known as so many appellations to which there was nothing applicable. The Fine Arts, once flourishing in this metropolis, languished for want of encouragement. Add to all this, a gloomy prospect in the State, seeming to foretell the bursting of a storm, which was gathering fast around the throne; public finances annihilated; national credit extinct; taxes accumulating; agriculture neglected; manufactures ruined; insurrections ripe in every quarter; the poor oppressed and murmuring; the liberty of the press banished; projects, the most absurd, bursting, like bubbles, as fast as they were formed;—such was, at this moment, the abject and deplorable state of this land of heroism, honesty, and benevolence. It seemed to every reflecting mind as if *Sweden* awaited one of those tremendous moral revolutions which, by tearing to atoms the constitution of the country, offers, amidst its ruins, the materials of a more solid structure. The necessity of convoking the Diet was becoming every day more and more apparent; yet the courtiers, twelve or thirteen of whom surrounded the throne, being averse from such a measure, as justly alarmed at the consequences of an inquiry into the state of public affairs, were using all their influence to prevent it, by persuading the King to disregard the agitation which was evidently gathering force in every quarter of his kingdom. Such was the abject state of the paper currency, that Bank-notes were in circulation of the nominal value of eight-pence, *English*; but which were considered as literally worth nothing; no one being willing to take them. The commerce of the country, of course, experienced a lamentable

Deplorable
condition of
the Country.

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check; and corn, of which the importation annually cost three millions of dollars, became woefully scarce. In this deplorable condition of things, the State candle was burning at both ends. The regulations made to prevent the consumption of coffee and of spirits were wholly ineffectual, and constantly evaded. There seemed to be no police whatever; nor any assize of bread; the difference of one half prevailing in the price of the same article in different parts of the same town. One hundred rix-dollars had been paid in the course of the last year for a single load of hay; peasants being actually compelled to kill their cattle, or to sell them for almost nothing, or to feed them with the straw from the tops of their houses.

We often met the young King in his walks through the streets: it was a practice in which he frequently indulged; going about in the most private manner, wrapped in a drab great coat, and attended only by a single officer, his Master of the Horse. It was understood to be his wish that he should pass without notice, as it would be troublesome to him to be continually bowing to all who might make their obeisance. But as *Englishmen*, who had experienced in every part of his kingdom the most unbounded hospitality, and were instigated only by a desire to testify the regard we felt for a country of which he was the Sovereign, we could not forego the satisfaction of taking off our hats, whenever he approached; and, notwithstanding what was before urged with regard to his conduct towards our countrymen, it was pleasing to observe that upon these occasions he always returned our salute in the most gracious manner.

The

The places of Public Amusement in this city are not numerous: the principal are, the OPERA HOUSE, already noticed; the THEATRE, or, as it is here called, *Dramatiska*; and the VAUXHALL, or *Gardens of Promenade*. The building of the *Opera House* took place between the years 1776 and 1782. This edifice is two hundred and ten *Swedish* feet in length, by one hundred and fifty in breadth; and it is fifty-seven feet in height. The front is decorated with columns and pilasters of the *Corinthian* order. It constitutes the chief ornament of the *Nordermalm* Square, being opposite to the Palace of the Princess Royal. The *Theatre* is situate in the Old Arsenal: it was built in 1792, upon the demolition of the *Théâtre Française*, which was taken down in the alterations made to lay open the front of the Royal Palace'. In this theatre are represented the *Swedish* tragedies, comedies, and farces; the best of which are quite below mediocrity. In comedy, however, the *Swedes* have some excellent actors. We saw one, whose name we do not recollect, but he reminded us forcibly of our own matchless comedian, *John Bannister*, whose talents will never be forgotten, if unaffected simplicity of nature, joined with pathos and energy, be preferable to stage tricks, affectation, and caricatura. This actor was deservedly a great favourite with the *Swedes*, whose stiff and serious features, habitually disposed to gravity, relaxed into continual laughter

(1) The old *French* theatre is now changed into a set of ante-rooms belonging to this building.

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laughter the whole time he remained upon the stage. *Sweden* is not destitute of eminent theatrical writers; but the principal part of the dramatic works brought forward in this country are translations from the *English* and *French* languages: this is always the case with their farces, if they possess the smallest degree of merit. The utmost order prevails in their theatres during the representations: no person moves from his seat, or enters into conversation with those about him: if the least sound of a voice be heard, except from the stage, a general hissing immediately puts the intruder to silence.

Academies.

Of the Societies instituted in *Stockholm* for the encouragement of Literature, there are five which bear the name of Academies, without including the *Patriotic Society*; viz. The *Academy of Sciences*; that of the *Belles Lettres, History, and Antiquities*; the *Swedish Academy*; the *Academy of Painting and Sculpture*; and the *Royal Academy of Music*. Among these, the ACADEMY OF SCIENCES holds the highest rank. It was founded in 1739, by several learned patriots, among whom it is sufficient to mention the senator Count *Hoepken, Linnæus, and Alstroemer*. It has continually increased and prospered since its first establishment; having published more than one hundred volumes of *Memoirs, Discourses, Eulogies, and Dissertations*, all in the *Swedish* language. It was not until it had attained the summit of its reputation that it was received under the protection of Government; which has since allowed to it great advantages; among others, the exclusive right of publishing and distributing almanacks throughout the kingdom, a privilege from

from which it derives a revenue annually of two thousand rix-dollars. The sciences which chiefly occupy this Academy are, Natural History, Physic, Anatomy, Chemistry, Astronomy, &c. It has a Library, a Cabinet of Natural History, an Observatory, and a Botanic Garden bequeathed to it by Mr. *Berguis*, the direction of which is entrusted to Mr. *Swartz*. The Cabinet of Natural History is under the inspection of Mr. *Sparrman*, celebrated for his voyages in the *South Seas* with Captain *Cook*, and for his *African Travels*. This Academy has a President and two Secretaries. The President is renewed every three months: the two Secretaries are perpetual. The first, Mr. *Melanderhielm*, directs the Academy, and has the Library under his care: he also conducts the foreign correspondence, and publishes the *Memoirs*. He lives in the Hotel of the Academy, a large and beautiful building in the centre of the town. In the principal chamber is the bust of its founder, Count *Hoepken*. The other secretary is Astronomer to the Academy: he lives in the Observatory, situate north of the town. He is employed in the publication of almanacks. Since the establishment of the *Academy of Sciences*, it has experienced some severe losses in the deaths of Messrs. *Pilas*, *De Geer*, *Wargentin*, *Baech*, *Berguis*, *Scheele*, &c.: but it still possesses Mr. *Acrel*, chief physician; its President, *Rosenadler*, who has bequeathed to it all his *Swedish* books; Admiral *Chapman*; Baron *Alstroemer*; Mr. *Engestroem*; Baron *Hermelin*; Messrs. *Geyer* and *Hjelm*, excellent mineralogists and chemists, the latter of whom first obtained *Molybdenum* in the metallic state; *De Carlson*, *Paykull*, *Oedmann*, &c. Among the members of this Academy, it boasts of

many

CHAP. VI. many celebrated foreigners:—in FRANCE, *Lalande, Expilly, Monnet, Keralio, Le Sage, De Morveau, Boufflers, &c.*—in SPAIN, *Mutis*;—in ITALY, *Spallanzani, Verri, Morozzo, Fontana, &c.*—in GERMANY, *Kästner, Kölpin, Richter, Forster, Möller, Achard, Jacquin, Schreber, Weigel, &c.*—in RUSSIA, *Æpinas, Euler, Rumowski, Pallas, Kourakin, Razumowski, Gallitzin, &c.*—in ENGLAND, *Banks, Pennant, Kirwan, and Smith*;—in DENMARK, *Niebuhr, Suhm, and Vahl*;—in AMERICA, *Priestley*. The Memoirs of the Academy are translated at Venice into Latin, with the title *Analecta Transalpina*; and at Göttingen in Germany, into French, by Mr. Keralio. The principal part of the Library of this Academy was the gift of the President *Rosenadler*. Among the books are some typographical rarities; a *Swedish Bible*, with wood-cuts, printed at *Upsala* in 1541; the New Testament, in quarto, with wood-cuts, printed at *Stockholm* in 1549; the first New Testament printed in *Sweden*, dated *Stockholm* 1521. Also a rare work (because prohibited), called “The Battles of Duke Charles,” or CHARLES IX. That the proceedings of this Academy should be published only in the *Swedish* language may be regretted as a real literary loss; for, as it is observed by a late author who visited this country, “*Si Linnée avoit écrit dans sa langue, il auroit eu, sans doute, autant de mérite; mais, à coup sûr, pas autant de célébrité*.” SPARMANN added greatly to the Cabinet of this Academy. He classed it according to the system of *Linnæus*; giving to the Academy, at their sittings, his own descriptions of every thing that

(1) Voyage de Deux Français, tom. II. p. 74 (Note). Paris, 1796.

that was new. Notwithstanding these additions, there is not much in this cabinet which can be considered either as worth seeing or describing. We visited it; and were quite struck with its insignificance, and the bad taste shewn in the selection and manner of displaying the specimens. Generally, in the first view one has of a Museum of this kind, merely by casting a glance over it, a tolerable correct notion may be formed of the style and character of the exhibition. Under this impression, we did not expect to be very highly gratified, when we observed, upon entering the apartment, some miserable specimens of common *Coral*, placed in a row upon pedestals of wretched shell-work that would have degraded the China closet of an ignorant old woman. The eye is afterwards caught by a number of glass-cases, containing organic bodies preserved in alcohol, which are, for the most part, reptiles; serpents, lizards, toads, and frogs. Here, among the more remarkable rarities, we were shewn the generative organs of the *Ostrich* and *Rhinoceros*; the *Draco-volans*, not so large as a common *Bat*; the foetus of a *Hottentot*; specimens of the *Rana typhonia*, and *Rana paradoxa*, from the embryo to the perfect state of the animal; *Lacerta Amboinensis*, considered a great rarity; *Venomous Serpents* of *America*, the *Indies*, and *South Seas*, remarkable for the flatness of their heads; *Flying Fishes* of the *Red Sea*; *Worms*, *Scorpions*, and other insects in great number; bones, teeth, &c. of *Elephants*; and weapons, dresses, and idols of the Islands of *Australasia*. Around the room are ranged specimens of greater magnitude; as, the heads of the *Cape Buffalo*; the *Hippopotamus*, believed to be the *Behemoth* of sacred Scripture;

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Scripture; the horns of various animals, some of astonishing size, of the *Rein-deer*, *Elk*, &c.

The ACADEMY OF BELLES LETTRES was much patronized by *Gustavus the Third*; who not only endowed it with a fund for prizes, but also for allowing premiums to several of its members. Its province extends to Foreign Literature and Classical Antiquities. The number of its members is limited to fifty. It was founded in 1753, by Queen *Louisa Ulrica*. Within these few years, it has lost many men of great merit; as, *Dalin*, *Lagerbring*, *D'Ihre*, *Potberg*, and *De Berch*. Its secretary is Mr. *Tileman*, Royal Antiquarian. This Academy has published several volumes of Memoirs, in *Swedish*. It possesses a beautiful collection of medals.

The third, the SWEDISH ACADEMY, or the *Academy of Eighteen*, is so called from the number of its members. It was instituted for the cultivation of the *Swedish* language, by *Gustavus the Third*, in 1786. Its particular aim is to cultivate, to purify, and to enrich the *Swedish* language. It composes the eulogies of Kings, noblemen, and private men who have been celebrated. It has published many volumes, on these and other subjects. *Gustavus the Third* neglected nothing that might conduce to its welfare. Since the year 1792, it has enjoyed the exclusive privilege of publishing the *Swedish Gazette*. Its secretary is Mr. *Rosenstein*, late preceptor of *Gustavus the Fourth*. It is usual, upon the death of one of its members, to deliver a funeral oration, illustrating his merits, enumerating his writings, and pronouncing his eulogium. This ceremony is always attended by the Academicians in their full dress,

by

by the members of the Royal Family, the Nobles and Gentry of *Stockholm*, and Foreigners admitted with tickets distributed by the members of the Academy. We were present upon one of these occasions, *Saturday, November 23*, when the sitting was attended with a great degree of grandeur. It was upon the death of Mr. *Stenhammar*. We arrived in the evening, and found the chamber of the Academy illuminated by a profusion of candles suspended in heavy chandeliers of cut glass. Upon the right hand, as we entered, in boxes affixed to the wall, sate the King and his Court; his Majesty, with the male part of his suite of attendants, being in one of the boxes; and the Duchess of *Sudermania*, with her maids of honour, in the other. The seats on the opposite side were filled with Noblemen, Ambassadors, Peeresses, and Foreigners of distinction. In the middle of the assembly, and below the King's box, was a long table, at which were placed the members of the Academy. The rest of the apartment was crowded by military officers and the sons of the principal families of *Stockholm*, all in full dress or in uniform. The business of the sitting opened with a Congratulatory Poem addressed to the King, by Mr. *Leopold*, the most celebrated of the *Swedish* Poets, upon the birth of the young Prince; containing, as may be easily supposed, little more than the most extravagant adulation, disposed into metre and rhyme. After this had been read, a new member, Count *Fleming*, was introduced, to fill the vacancy caused by the death of *Stenhammar*, and to

CHAP. VI. pronounce the funeral oration¹. This was read by the Count, from a manuscript, in the *Swedish* language, written in a terse and elegant style, with great uniformity of diction, but highly polished; and it gave general satisfaction. The reading lasted a considerable time. When it was over, his Majesty advanced towards the Duchess of *Sudermania*, and kissed her before all the company present; a ceremony which, as was before remarked, very generally attends the breaking up of assemblies in *Sweden*.

The ACADEMY OF PAINTING AND SCULPTURE was founded in 1735, by Count *Tessin*. It was particularly protected by *Gustavus the Third*, who, in 1783, enlarged and perfected the plan of its establishment by new regulations. It publishes every year an exposition of its works, and distributes prizes among its pupils. Of this Academy, Mr. *Fredenheim* is President, and Mr. *Pasch* Director; the first, Intendant of the King's Buildings; the second, Keeper of the King's Pictures. Among its members, it boasts of the celebrated *Sergell*, one of the greatest sculptors in *Europe*. The other most distinguished members of this Academy are, Mr. *Breda*, the portrait-painter; Mr. *Templeman*, the Secretary, and Architect to the King; Mr. *Masrelier*, Painter to the King; the famous
Despres,

(1) *Acerbi* has mentioned a *Swedish bon-mot*, upon the occasion of Count *Fleming's* being introduced as the new member of the *Academy of Eighteen*; which will shew the natural sprightliness and wit of the *Swedes*, notwithstanding the character of gravity often imputed to them. When the Count took his seat among the Academicians, a wag observed that their number now amounted exactly to 170. 'How so?' it was asked. 'Because,' replied he, 'when a cipher is added to the number seventeen, the amount is 170.'

—See *Acerbi's Travels*, vol. I. p. 170. Lond. 1802.

Despres, scene-painter, &c.; the two *Martins*, one a landscape painter, the other an engraver and painter in water-colours. It has lost Mr. *Gillberg*, who produced the medals which compose the medallic history of *Gustavus the Third*.

THE ROYAL ACADEMY OF MUSIC was founded in 1772, by *Gustavus the Third*. The Opera is annexed to its establishment. It has produced works of great merit, in poetry, music, and scenery: for example, the famous opera of *Gustavus Vasa*, which was brought out with unequalled splendour and perfection. The music of its pieces is principally composed by *Uttini*, an *Italian*; and by *Vogler* and *Kraus*, who are *Germans*.

THE PATRIOTIC SOCIETY began to assemble in 1767, and is numerous as to its members. It is chiefly occupied in the science of *Economy*, as applied to the kingdom: it publishes annually works upon this subject. Its principal secretary is Mr. *Modur*, who may be considered as its founder. This society is truly useful to the *Swedish* nation.

On Saturday, *December 7th*, the King left *Stockholm*, for *Upsala*, in consequence of a petition he received, as Chancellor of the University, from the Students, remonstrating against the conduct of the *Rector Magnificus*, and demanding a legal inquiry into the propriety of the measures he had thought proper to pursue. These young men had celebrated *Buonaparte's* return to *Paris*²; and exhibited an idiot, in solemn procession, dressed and decorated with the uniform, orders, and insignia of *Suwarof*. The principal magistrate

Riots at
Upsala.

of

(2) After landing at *Frejus*, from his *Egyptian* expedition.

CHAP. VI. of the University had therefore assembled the students, and publicly reproved them for their conduct. In consequence of this disgrace, which they conceived they had not merited, the appeal had been made to the King. Upon receiving this petition, his Majesty immediately repaired to *Upsala*; and having satisfied himself of the irregular behaviour of a parcel of unruly boys, made it known to the members of the University that he did not deem them any longer worthy either of his patronage or protection, and accordingly resigned the Chancellorship. This was one of those measures, for which, having acted from the impulse of his own heart, and consulting the advice of no one able to guide him, he was universally blamed in *Stockholm*: it was said, that it might tend to the ruin of the University. To an impartial bystander, the King's only error seemed to be in having at all noticed an application of so puerile a nature, and one that he might so easily have dismissed, by referring the whole affair to the resident magistrate. But so determined was he to adopt his own judgment in all things, that if any of his Ministers had the reputation of influencing his actions, it was made a sufficient ground for their immediate dismissal.

Royal Palace.

We availed ourselves of his absence, upon this occasion, to pay a visit to the ROYAL PALACE; strangers not being admitted, during his residence, into the State apartments. This magnificent structure is one of the finest modern edifices of the kind in *Europe*. It is not so spacious as the Royal Palace of *Copenhagen*, but it has a grander aspect, being upon an eminence which commands all parts of the city. It is of a square form, built four stories high, of brick-work, faced with

with stucco after the *Italian* manner¹, and adorned with *Grecian* pillars and pilasters. The interior court measures about eighty-seven paces by seventy-five. A marble staircase leads to the Chapel, which is surrounded by a gallery, and beautifully decorated. Opposite the Chapel is the Council-chamber, in which we saw two fine portraits by an unknown artist; one of *Gustavus Vasa*, executed in black drapery; and another of *Gustavus Adolphus*. These are whole lengths; but they have been stretched upon new canvas since they were originally painted, by which means the back-ground has in each instance been enlarged, and the original design of the painter extended with marvellous success; the harmony and due effect not being at all violated, which is very unusual in such cases. The State apartments consist of a suite of chambers, the first of which, of a square form, is ornamented with gilded columns. Here there are two statues as large as life, by the famous *Sergell*, who was at this time resident in *Stockholm*, afflicted, as it was said, with an incurable melancholy: the one is a statue of *Apollo*, the other of *Venus*; the head of the latter being a portrait of the Countess *Hoepken*². Passing on, we entered another grand chamber, furnished with rich *French* velvet; in which were six marble busts, also by *Sergell*, representing the Family of *Gustavus the Third*. After this occurred a small Cabinet, serving as a kind of vestibule to the Picture Gallery, containing an antique marble bason, supported by a tripod of lion's feet,

(1) See the Plate facing p. 152, in the former Volume.

(2) Voyage de Deux Français, tom. II. p. 54.

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Picture
Gallery.

feet, and three antient marble statues—*Juno*, *Pescennius Niger*, and *A Youth with a Swan* holding in its beak a serpent. The Picture Gallery contains some fine pieces; but in the examination of this collection, we thought that the number of copies exceeded the original pictures in the proportion of ten to one. It was principally formed by *Gustavus the Third*, during his travels in *Italy*; and any one who has resided in that country will figure to himself the traffic that would be going on when a young Prince, passionately fond of the arts, and liberal in his disposition, arrived among the *Ciceroni* and dealers at *Rome*. It is not wonderful that he should have brought away with him more trash than most of our *English* nobility journeying as amateurs. In viewing this collection, it was easy to recognize the decisive marks of a system of imposition, and some articles of manufacture, which have continued for many years to exercise the ingenuity of the *Italian* artists, and to dupe the credulous foreigners by whom they are visited.—In this gallery is a picture of *The death of Adonis*, attributed to *Vandyke*, which is assuredly a copy¹. Others, said to be by *Bassano*, which are also copies. One attributed to *Leander da Ponte*, seemed to be really by that master. A picture of *Sigismund, king of Sweden and Poland, on horseback, with a dog*, in the manner of *Vandyke*, is shewn as a picture painted by *Rubens*, *Vandyke*, and *Sneyders*: it was bought at a common post-house, for a single ducat. Of this picture it is usually said,

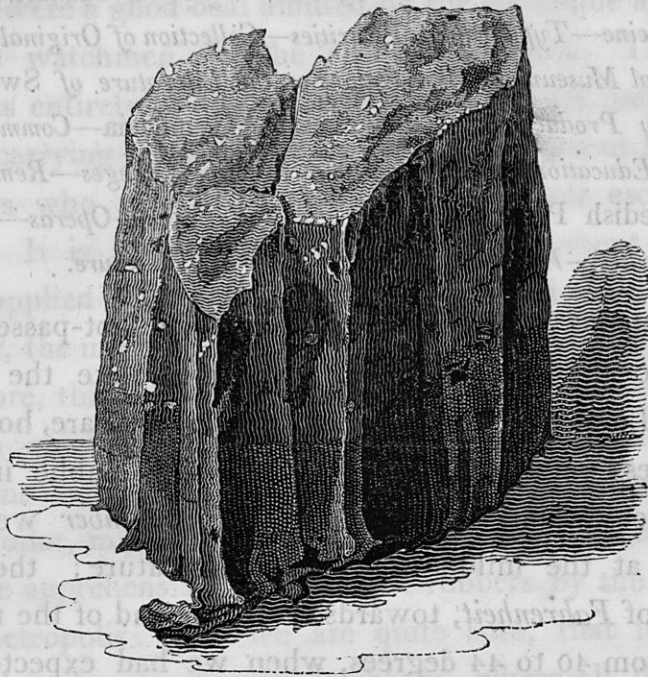
(1) The Authors of the *Voyage de Deux Français* ascribe this picture to *Le Moine*. See tom. II. p. 55.

said, that the figure of *Sigismund* is by *Vandyke*, the *horse* by *Rubens*, and the *dog* by *Sneyders*. Here are many pleasing and highly-finished *Flemish* pictures; and among others, some of *Wouvermans*: also a masterly picture by *Rembrandt*, of a *Philosopher reading*. A *Butcher* cutting up an *ox*; said to be by *Teniers*; doubtful. The *Family of Rubens*, by *Vandyke*. Besides these, are works attributed to *Poussin*, *Berghem*, *Holbein*, *Titian*, *Lanfranc*, and *Simon da Pesaro*, which it would be tedious to enumerate. In the same gallery, moreover, are thirteen antique marble statues, some of which may justly rank among the finest reliques of antient art. In other parts of this stately palace are many other pictures and statues; among the latter, a small statue of *A cumbent Fawn*, one of the finest works of *Sergell*. We were conducted from this Gallery to the private apartments of the King, and much interested in viewing the elegant suite of small rooms in which *Gustavus the Third* exercised a taste of which he was vain, in shewing how much it was possible to contrive within a narrow compass. This was what he used to call his *Multum in parvo*. Master of a palace vast enough to accommodate all the Sovereigns in *Europe*, he would creep into closets, in order to convince his friends how snug, convenient, and withal how elegant, a room might be made, in which the head of a tall man would touch the cieling, and his arms, when extended, the side walls. It was with this view he used to retire to his little chambers in the Opera House, where he would frequently lodge; quitting a palace like *Hadrian's Villa*, to dwell in *Diogenes' tub*.—At the end of a series of such small cabinets which were once occupied by him

Private Cabinets of *Gustavus the Third*.

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him in this palace, we were shewn an elegant *boudoir*, or closet for writing; the table being raised, and adapted to a rich couch surrounding the apartment. The doors of all the rooms leading to this *boudoir* being placed in a straight line, and glazed, enabled the King, as he sat, to view the whole extent of these chambers, and the persons of all who might be in them, even when the doors were shut.



IGNEOUS BASALT, from the Bottom of a Copper Furnace in Siberia.

The original Specimen in the possession of the King of Sweden.

CHAP. VII.

STOCKHOLM.

Public Women—Mildness of the Season—Vauxhall—Watchmen—Balls of the Society—Manners of the Inhabitants—Public Executions—Artists—Royal Palaces—Views of Stockholm—Description of Drottningholm—Lake Mœlar—Sudden Change induced by the coming of Winter—Frozen Game—Population—State of Trade—Boot and Shoe Market—Cabinet of Models—College of Mines—Igneous Basalt—Apparel worn by Charles the Twelfth when he was assassinated—Cast of that King's face after death—Royal Library

—Codex Aureus—Codex Giganteus—*Curious Manuscript Code of Medicine*—*Typographical Rarities*—*Collection of Original Designs*—*Royal Museum*—*Observations on the Literature of Sweden*—*Literary Productions*—*Establishments*—*Gymnasia*—*Committee for Public Education*—*Chirurgical and Medical Colleges*—*Remarks on the Swedish Poetry*—*List of Poetical Works*—*Operas*—*Dramas*—*Comedies*—*Works in the higher order of Literature.*

CHAP. VII.

Public
Women.

Mildness of
the Season.

Vauxhall.

THE streets of *Stockholm* are not paved for foot-passengers ; neither do they swarm with prostitutes, like the public streets of *London*. Women of this description are, however, not the less numerous here, for being less public in their appearance. During the month of *November* we were surprised at the mildness of the temperature ; the thermometer of *Fahrenheit*, towards the latter end of the month, varying from 40 to 44 degrees, when we had expected that we should have been going about in sledges upon the snow. We went to what are called the *Vauxhall Gardens*, upon *Sunday, November 17*, after visiting the *Theatre*, which we found more than usually dull. These gardens have but little resemblance to those in *England*, whence their name has been borrowed : a few rows of trees, and a narrow room for walking or dancing, about eighty yards in length, make up the whole. This room is lighted by lustres of cut glass. In a gallery upon the left was a band of musicians, who played during the evening, from six to ten, when a trumpet sounded for the company to disperse. The principal part of the persons present were women of the class before mentioned : the company, consequently, with the exception of several officers of the army, being of the lower orders.

We

We were a good deal amused by the grotesque appearance of the watchmen, in the streets at night. Their dress consists entirely of the skins of animals; and they walk in pairs, carrying in their hands a curious instrument for seizing culprits who may endeavour to make their escape from them. It is so contrived as to shut fast about the neck, being applied below the back part of the head; and becoming tighter, the more a person struggles to get free. When once, therefore, this instrument is fixed, the prisoner is sure to remain quiet, through fear of being choked: afterwards, it opens with a spring. Perhaps this portable trap, or thief-collar, might be made useful in our own country, to aid the apprehension of midnight robbers by the police of our metropolis: and we are quite sure, that it is more wanted in *London* than in *Stockholm*, where all the watchmen have to do, is, to carry about their rattle-spikes, with these instruments, calling the hour in the same dismal ditty which is heard all over *Sweden*!—

CHAP. VII.

Watchmen.

Klockan är tie slagen!—
 Fran eld, och brand,
 Och fienden's hand,
 Bevara, O Gud! den stad och land!—
 Klockan är tie slagen!

As a contrast to the scene exhibited by their *Vauxhall*,—
 where,

(1) The author finds this preserved in the *MS. Journal* of his friend Dr. *Fiott Lee*. It is thus, when literally translated:

The clock has struck ten!—
 From fire, and burning (*fire-brand*),
 And from the enemies' hand,
 Save, O God! this town and land!—
 The clock has struck ten!

CHAP. VII.

Balls of the
Society.

where, however, there is nothing of rudeness or disorder,—a stranger finds in the balls of the *Society* the utmost degree of elegance and the most polished manners. We accompanied Baron *Oxenstierna*, with Messrs. *Acerbi* and *Bellotti*, and our friends Messrs. *Kent* and *Jarrett*, to one of those balls. The preceding day, *November 25*, had been a great day at Court, and most of the principal personages were present upon this occasion. We were much struck with the magnificence of the assembly. The dancing began with quadrilles; after which the company joined in what they called the long dance; that is to say, one of our *English* country-dances: the whole was then concluded with a waltz, when they all adjourned to the supper-rooms. There were three rooms for supper; two ball-rooms; and two other apartments for cards—a very favourite amusement with all the *Swedes*. This entertainment lasted until near five o'clock in the following morning.

Manners of
the Inhabi-
tants.

From all that we had seen of *Sweden*, we found much more to admire than to disapprove, and very little to censure: the generality of *Englishmen* visiting the country will probably coincide in this opinion. The more we became acquainted with the inhabitants, the better we were pleased with them. There are few places where the traveller will find a greater facility of intimate intercourse with the different families than in *Stockholm*: for although the hospitality he may experience be not of that unbounded nature which distinguishes the natives at a distance from the capital, it is on this account less oppressive, and more according to the rules of refinement. The time of paying
and

and receiving visits is in the evening: it begins about five o'clock. Having been once introduced, no invitation is afterwards necessary. As no visits are made in a morning, every one makes his appearance dressed for the evening parties. They occur in several houses, at each of which it is usual to stay half or three quarters of an hour. At these parties the amusements are, music, singing, cards, and dancing. The conversation is always lively, and generally remarkable for the good humour and mirth which is excited.

Public executions, always rare in the provinces, are not common in the capital. During our residence in *Stockholm* an event of this kind took place. Two malefactors, condemned for forging the paper money, were hanged. The concourse of people, to see these men executed, exceeded any we had ever observed elsewhere, upon a similar occasion. For some hours before the sentence of the law was enforced, the streets of the city leading to the place of execution were full of passengers, moving towards the spot. This is situate in a forest, about three *English* miles from *Stockholm*. The lower part of the gibbet was surrounded by a circular wall, concealing the executioners from view, and leaving only the top of the gallows visible. About nine o'clock in the morning the two culprits were conducted from their prison to this place. The rocks and hills around were covered with spectators, and the throng in the road was so great that carriages could not approach. The two malefactors, after being allowed to halt (as is usual in such cases) at a small cabaret, to drink a glass of wine, were brought to the
outside

Public
Executions.

CHAP. VII. outside of the circular wall at the foot of the gibbet. Two ropes appeared above this wall, hanging from the beam. At the door which opened into the interior area, the secretary of the police read to the two criminals the sentence which had been pronounced against them; after which they were ushered in. About five minutes had elapsed, after their entrance, when the ropes began to be in motion. The executioner at the same time made his appearance, having ascended a ladder placed against the beam of the gibbet. Immediately one of the criminals was drawn up by a rope fastened round his waist, and exposed to view, with his hands bound behind him, his eyes covered, and his head and legs hanging down. A short rope was fastened to his neck, with a loop, which the executioner attached to an iron hook in the beam; and then, letting go the rope by which he had been drawn up, and placing his foot upon the criminal's head, his neck was instantly broken. The other malefactor suffered in the same way.

These unfortunate men were remarkably well dressed, and seemed to have paid an attention to their persons which is very remarkable at such an awful moment. One of them had served as a serjeant in the provincial cavalry, of which the Duke of *Sudermania* was colonel. His melancholy fate seemed to interest and affect the spectators, many of whom were in tears. As he was drawn up, his voice was heard uttering, several times, these words:—

“Gud bevara min själ! min själ!”

“God save my soul! my soul!”

We remained in *Stockholm* during a considerable part of the months of *November* and *December*, having no reason to complain either of the climate or of the inhabitants. Indeed, when we considered the latitude of the place, it seemed as if winter had postponed its annual visit.

In a former volume we mentioned some of the artists CHAP. VII.
of this city. Towards the end of *November* we were occupied in renewing our visits to them, and also in inspecting the works of others. A painter, Mr. *Breda*, late pupil of Sir *Joshua Reynolds*, was engaged in painting a whole-length portrait of the King, who sate to him every day. This portrait was a very fine one, and a striking likeness of his Majesty. Mr *Breda* had a valuable cabinet of pictures of the old Masters, which had been formed by his father. At an engraver's of the name of *Martin*, brother of the landscape-painter of that name, whom we before mentioned, we procured many views of the mines and of the city, some of which have been engraved for this work. We visited that eccentric genius *Després*, a painter brought from *Italy* by the late King; and saw several fine pictures, the works of his hand. Being admitted into the workshop of the celebrated *Sergell*, we saw the colossal bronze statue of *Gustavus the Third*, ordered by the citizens of *Stockholm*, for a pedestal of polished porphyry, which was already placed upon the Quay, a little to the east of the Palace. *Sergell* is considered as second only to *Canova*, in the art of sculpture. This bronze statue represents the King as a pedestrian figure, dressed in a long mantle, in the act of haranguing his troops. It is eleven feet high. The right hand

CHAP. VII. hand is raised and extended, holding an olive-branch. The modelling cost 10,000 rix-dollars; the casting and metal, 20,000. We saw a valuable collection of designs, books, and casts, at the house of *Masrelier*, whose own drawings are deservedly in high estimation. Upon the 28th of *November* we were invited by Baron *Oxenstierna* to a dinner, at which we met all our *English* friends. In the evening, Signor *Acerbi*, who was present, amused the company by the exhibition of his musical talents; performing upon the harpsichord a great variety of national airs, to which, with surprising facility, he adapted the most skilful and pleasing variations.

Royal Palaces. Upon *Friday* the 6th of *December*, we set out to visit *Drottningholm*, one of the royal palaces in the neighbourhood. The name of this place, when translated, signifies *The Queen's Island*: it is situate in an island upon the borders of the Lake *Moelar*, about six *English* miles from *Stockholm*. As a place of summer residence, nothing can be more delightful. There are two other palaces belonging to the King in the environs—*Gripsholm* and *Stromsholm*; but this by far exceeds the others in beauty, and has generally been preferred by the Royal Family. The view of *Stockholm* from the bridge, in going to *Drottningholm*, is the best: and if external appearance alone were to be relied on, this might be deemed the most magnificent city in the world. But the effect produced is not to be described in words: the aid of the painter is here wanted'. White edifices, consisting of

Views of
Stockholm.

(1) There cannot be a better subject for a *Panorama* than a View of *Stockholm*, connected as the different objects are with many interesting events in History. If the ingenious

of public and private palaces, churches, and other buildings, rising from an expanse of waters, produce an effect of incomparable grandeur. The approach to *Drötningholm* is by a floating-bridge, seven hundred feet in length. This bridge, they say, was finished in twenty-two days; and cost five thousand rix-dollars: it is constructed entirely of wood. The palace is a handsome stuccoed building, roofed with copper, with side wings; and has at either extremity a pavilion, surmounted by a dome, one of which is the chapel. The length of the whole building seemed to be about forty yards. We went first into the chapel, which is small, and perfectly simple. Then we took a walk round the gardens, which we found barbarously laid out, in the old style, with shorn trees and clipped hedges. We were conducted to a Theatre formed in this wretched taste, by means of avenues. We soon saw enough to convince us that nature had done every thing for *Drötningholm*, and man worse than nothing. In the reign of *Gustavus the Third* this place partook largely of the splendour that characterized his reign: the sum of money expended in its decorations was enormous. Its interior exhibits a very different aspect now, from its appearance then. The Library and some of the rooms are worth seeing;

ingenious artist, to whom the public has been indebted for so many excellent pictures of this kind, should pursue the hint here suggested, he will probably select, for his point of view, the little hill upon which the *Observatory* stands, or else the tower of *St. Catherine's Church*; whence the eye commands, not only the whole of this remarkable city, intersected with all its bays, creeks, and harbours, but also the numerous little islands, with all the principal squares, streets, palaces, churches, and country-seats.

CHAP. VII. seeing; but, upon the whole, there was nothing to detain us long. A noble statue of *Neptune*, in bronze, upon the border of the lake and in front of the Palace, has been disposed so as to produce a very striking effect. It is a common thing to decry works of this kind, as they are generally seen in public gardens—leaden *Mercuries*, spouting dolphins, and dancing *Cupids*; but the appearance of this fine statue, extending its arm over waters connected with the ocean, and exhibiting a masterly style of sculpture, is truly majestic. All the bronze figures exhibited here were taken at *Prague*, in the Thirty-years' war. Upon a vase may be observed the cipher of *Ferdinand the Second*. These works are, for the most part, in the style of the *Florentine* school, in which the *German* artists used at that time to study. We now returned to the Palace itself, and were conducted to the *Library*. Upon the tables we saw a number of small specimens of sculpture, executed at *Florence*, in gypsous alabaster. Here are also a number of those beautiful *terra-cottas* commonly called *Etruscan* vases; some of these were of great value: and a collection of medals of the highest price, containing those of antient *Greece* and *Rome*; together with a regular series of every thing rare and remarkable in the *Swedish* coinage. This collection is contained in eight cabinets. Besides a well-chosen collection of books, there are, in this library, *Flemish*, *Dutch*, and *Italian* paintings; and models, in cork, of the antiquities of *Italy*. There is, moreover, a curious Cabinet of Natural History, which belonged to the late Queen, and was described by *Linnæus*. Here we saw, among many other

other curious animals preserved in alcohol, the embryo of an elephant; together with apes, birds, amphibious animals, fishes, insects, and shells, many of the greatest rarity and beauty. There are few things in this palace more worth a stranger's notice than a View of *Stockholm* by *Martin*, one of the best works of that artist. The Audience-chamber is filled with allegorical pictures, alluding to the history of *Sweden*, principally in the time of *Charles the Eleventh*, painted by *Ehrenstrale*. The Gallery contains a series of large pictures, representing the battles of *Charles the Tenth*. The grand staircase is ornamented with marble statues, all of which are modern. We saw, above stairs, a most excellent portrait of *Charles the Twelfth*; and some good pictures of his most celebrated Generals, by *Raft*. Opposite the palace is the Theatre; and there are several adjoining houses, for the members of the Court in attendance upon the Royal Family.

The Lake *Mælär*, with its irregular shores and numerous islands, has all the variety and beauty that rocks, woods, and verdant spots without great height can give; and the views towards *Stockholm*, especially if seen from the water, are singularly pleasing. The immediate boundaries of the water are generally rocks of *gneiss*, and the shores consequently bold and denuded. The trees are chiefly firs; but birch, alder, and oak, are not unfrequent. The approach to *Stockholm* was described in a former Volume, both from our own testimony, and also from the *MS. Journal* of the late Rev. *E. V. Blomfield*, as affording no idea of the entrance to

Lake Mælär.

CHAP. VII. to a great capital: but if it be approached from the side of *Dröttningholm*, or from the *Glass-works*, no city in *Europe* can pretend to vie with it:—it seems a Cyclopéan heap of the most noble structures; palaces and churches all piled one above another; and the whole floating, as it were, upon the broad bosom of the deep. This magnificent scene is further enlivened and rendered more enchanting by the appearance of vessels of all sizes; some sailing, others riding at their anchorage amidst the rocks and groves, or beneath the very windows of those lofty buildings. Nor does this prospect become less delightful when the lake and the sea is frozen; because then they are covered by sledges of all kinds, and exhibit one of the gayest scenes imaginable. The coming of winter opens for the *Swedes*, as among the *Norwegians*, the heyday of the year. When the snow has fallen, every body is in motion, and the most lively intercourse prevails: business seems to awake as from a slumber, and all is cheerfulness and industry. The return of this winterly festival was first announced to us by a custom which reminded us of good old times in *England*: parties of boys, attended by bands of music, came to sing carols at our door. This began with the month of *December*. *Fahrenheit's* thermometer was at 28° upon the *second* day of the month; but it was not until the 8th that the mercury remained steadily below the freezing point. After the 12th, however, it was observed every day to fall gradually lower: the air was then clear and dry, and we felt none of that chilliness which arises from a damp atmosphere when freezing is about to take place.

As soon as the frost had fairly set in, Game of all sorts became abundant, and was seen upon stalls in the principal streets. This being frozen, the poulterers are under no apprehension of its becoming stale. The heaps of curious birds, in their beautiful plumage, afforded to us a very interesting sight. As the frost had commenced earlier in the more northern districts, a short time only elapsed before we saw immense sledges arrive, bringing every species of wild fowl, and from the most distant provinces, piled in heaps, like so many stones. We sent the skins of many of them to *England*: and a visit to the Game-stalls, as to a cabinet of natural history, became to us a pleasing amusement. The prices in the beginning of *December*, for Game and other articles, were as follow :

CHAP. VII.
Frozen Game.

A Cock of the Wood (<i>Tetrao Urogallus</i>) . . .	1½ dollar.
Grouse	the brace 1½ ditto.
A bird called <i>Hjarpe</i> (<i>Tetrao Bonasia</i>) . .	each 1s. 8d. <i>English</i> .
The beautiful <i>Snow-Riupa</i> (<i>Tetrao Lagopus</i>)	each 2s. ditto.
Turkeys	each 4 rixdollars.
A Goose	2 ditto.
Hares	each 1s. 4d. <i>English</i> .
Pullets	2s. 8d. ditto.

other wild-fowl, &c. in proportion. These prices appeared to us to be very high, considering the abundance of Game everywhere displayed; and it was expected they would not be lowered during the present month. The inns in *Stockholm* are very dear, and very bad. The best plan is, to hire lodgings; but for these, if tolerably neat, a traveller will have to pay two dollars a day; besides one dollar a day for fuel, which till lately was never made an article of charge. For breakfast of tea and bread and butter,

the

CHAP. VII. the price is half a dollar each person; and two dollars a head are demanded for the most common dinner, not including wine.

In reading a list of all the tradesmen and artificers in *Stockholm*, a stranger might hastily conclude that a great deal of business and many manufactures were going on. The same opinion might be formed by visiting the *Exchange*, situate in the great market-place, south of the Palace, between one and two o'clock. Here the throng is so great, that it is difficult to force a way

Population.

through the crowd. The number of inhabitants in the whole city is estimated at something less than the population of the city of *Bristol*: it amounts to 72,652.¹

State of
Trade.

In this number there were, at this time, thirty-six wig-makers, and only one cutler! forty-seven vintners, and not a single chimney-sweeper! nineteen coffee-roasters, although coffee had been prohibited! and only nine copper-smiths! seventy goldsmiths and jewellers, and only four braziers! one hundred and thirteen keepers of ordinaries, and only one tool-grinder! We could find nothing good that had been manufactured in the country, excepting *iron*, *tar*, and *gloves*. The gloves of *Scania* are the best in the world; but all other articles were of inferior quality, unless they had been imported from *England*, in which case they were considered as contraband, and were sold at immense prices, and in a clandestine manner. The glass-works were all bad: the same may be said of all the works of joiners and cabinet-makers;

(1) See also Thomson's Travels in Sweden, p. 94. Lond. 1813.

makers; cloth, leather, &c. &c.: yet one of the most singular sights in *Stockholm* is the boot and shoe market: this is a building near the Palace, to which there is an ascent by a flight of stairs, where ready-made boots and shoes are sold very cheap; and were it not for the inferiority of the leather, and the negligence shewn in the work, boots are no where better made. The astonishing quantity exposed for sale in this market is really worth a visit to the place: it is a kind of gallery, filled with stalls, and attended by women. With regard to other articles of trade, the inferiority of the *Swedish* workmanship, and in many instances the total want of the article itself, is very striking. A whole day may be lost in inquiring for the most common necessities. Of all things for which a traveller may have need, we thought that furs might be obtained here in the greatest perfection, and at the most reasonable prices; but even this branch of trade seemed to be almost a monopoly in the hands of the *English*. The best furs were all imported from *England*, and came, as it was said, originally from *America*; consequently the prices were very high, and the articles rare. All optical instruments were the wares of those vagrant *Italians* from the *Milanese* territory, whom we have before described as wandering with the proofs of their industry and ingenuity in every part of *Europe*.

It is difficult to reconcile this want of manufactures with the inventive genius shewn by the *Swedes* in one of the most pleasing of the public exhibitions of their capital,—that of the *Cabinet of Models*. This cabinet is preserved in an antient palace, where the courts of justice are now held, near

CHAP. VII. *Riddarholm Church.* As a repository of the models of all kinds of mechanical contrivances, it is the most complete collection that is known. We went several times to view it; and would gladly have brought to *England* specimens of the many useful inventions there shewn'. In this chamber, it is not only the number of the models that strikes the spectator, but their great beauty and the exquisite perfection of the workmanship, added to the neatness with which they are arranged and displayed. Every thing necessary to illustrate the art of agriculture in *Sweden* may be here studied;—models of all the ploughs used in all the provinces from *Smoland* to *Lapland*; machines for chopping straw, for cutting turf to cover houses, for sawing timber, for tearing up the roots of trees in the forests, and for draining land; stoves for warming apartments, and for drying all sorts of fruit; machines for threshing corn; corn-racks; windmills; pumps; all sorts of mining apparatus; fishing-tackle; nets; fire-ladders; beds and chairs for the sick; in short, models of almost every mechanical aid requisite for the comforts and necessities of life, within doors or without.—There can be no doubt but that patents would be required for some of them, if they were known in *England*: and possibly patents may have been granted for inventions that were borrowed from the models in this chamber. Among them are models for light-houses, telegraphs, and other methods of making signals.

Upon

(1) Mr. *Cripps* succeeded in purchasing copies of some of them; such as, a machine upon an improved plan for denchering land; and models of some of the *Swedish* stoves for heating apartments.

Upon this our second visit to *Stockholm*, we again examined the collection of minerals belonging to the Crown; and were much indebted to the celebrated chemist *Hjelm*, for the readiness he always shewed to gratify our curiosity; allowing us to inspect all the produce of the *Swedish* mines. The refractory nature of some of the richest *iron* ores of this country and of *Lapland* is owing to the presence of several remarkable extraneous bodies; among which may be mentioned *titanium*, *zircon*, and *phosphate of lime*². We had made a large collection of these ores, and the nature of them is now well ascertained. In the account we gave of our first visit to this collection, a specimen was slightly alluded to, exhibiting a remarkable prismatic configuration, taken from the bottom of a furnace in *Siberia*³. How it was brought to *Stockholm* we did not learn. Some of the *Swedish* mineralogists attached more importance to this artificial appearance than we did; considering it as a satisfactory elucidation of the origin of what is commonly called the *basaltic* formation by means of igneous fusion. We caused an accurate drawing to be made of it, by *Martin*, which has been engraved as a *Vignette* to this Chapter⁴. By this it will appear, that the prismatic form which the mass assumed in cooling after fusion, can hardly be considered as charac-

CHAP. VII.
College of
Mines.

Igneous
Basalt.

(2) The last was discovered by Dr. *Wollaston*, in some of the *iron* ore which was brought from *Lapland*. *Zircon* was discovered in *iron* ore by Mr. *Swedenstierna* of *Stockholm*. (See *Thomson's Trav. in Sweden*, p. 105. Lond. 1813.) In some of the specimens of the *iron* ore of *Gellivara*, crystals of *zircon* might be discerned.

(3) See p. 165 of the former Volume.

(4) See the *Vignette*.